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TABLE of CONTENTS

ARTICLES

- Development of the Body Scheme in Children 99
A. Jean Ayres, Ph.D., O.T.R.
- Effects of Intensive Occupational Therapy on Chronic
Schizophrenic Patients 103
William R. Conte, M.D.
Manuel J. Otero, M.D.
John H. Gladfelter, Ph.D.
- Muscle Strength and Resultant Function in Cervical
Cord Lesions 106
Esther Bell, O.T.R.
Rose M. Elliott, O.T.R.
Odon F. von Werssowetz, M.D., F.A.C.P.
- Electrical Communication Devices 110
Morris Val Jones, Ph.D.
- Neurophysiological Considerations in Occupational
Therapy for the Cerebral Palsied 112
Edward D. Mysak, Ph.D.
Mary R. Fiorentino, O.T.R.
- The Effect of Planned Socialization on Patients 118
Ann R. Olson, O.T.R.
Lewis J. Sherman, Ph.D.

DIVISIONS

- | | |
|------------------------------|--------------------------|
| Nationally Speaking 122 | Reviews 130 |
| Delegates Division 129 | Classified Ads 133 |

FEATURES

- | | |
|---------------------------|-----------------------|
| Picture Page 121 | Letters 126 |
| Conference News 125 | In Memoriam 127 |

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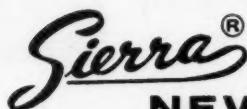
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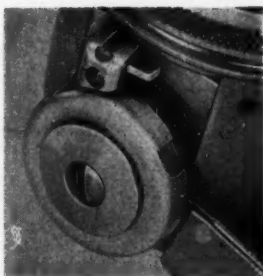
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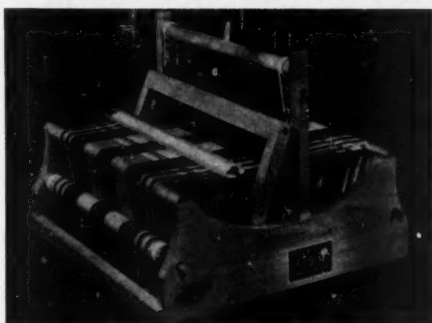
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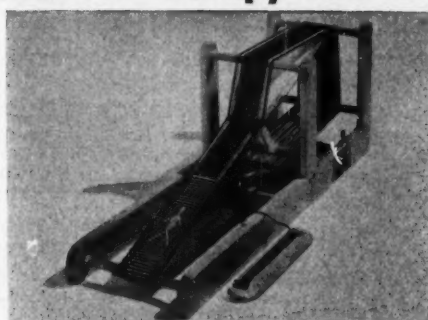
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DEVELOPMENT OF THE BODY SCHEME IN CHILDREN

A. JEAN AYRES, PH.D., O.T.R.*

At each stage of life, current learning is dependent upon all previous learning. Learning to read, for example, is partially dependent upon the previously developed ability to visually perceive form. Perception of form and space is closely associated with prior motor learning, and early motor learning is intimately associated with the development of the body scheme. Much of our knowledge of the world begins with our knowledge of our own bodies. Visual space perception begins with the understanding of the spatial relations of ourselves — knowing that we have a front and a back, that the hair is above the eyes and feet are below the knees, that the head is more "up" and the feet are more "down." These space concepts, long before they can be verbalized, are then generalized to objects other than self. Early number concepts have a body reference. A person has one nose but many fingers. Later on, as the child develops, he learns he has two eyes, ears, hands and feet. When he begins to count objects he uses his fingers to assist in grasping the nature of the process. Without adequate knowledge of the body, a child is handicapped in learning number concepts, all processes involving visual and spatial perception, and all skilled motor tasks. It is quite possible that the emergence of hand dominance is dependent upon reaching a certain stage of development in the body scheme.

THE NATURE OF THE BODY SCHEME

Body scheme refers to the conception of one's own anatomical construction and how the different segments of the body interrelate in motion. It is sometimes called the postural model. When the awareness of the body's configuration and potential motion is faulty, the individual is not able to formulate a plan of movement to accomplish

a skilled, purposeful task. The underlying deficit in body scheme is not always evident since most individuals with diminished concept of their physical selves can and do learn certain specific motor skills which give a false impression of generalized ability.

Acquisition of a body scheme is dependent upon synthesis of sensory stimuli, the main ones being those of touch, proprioception, and vision. As an infant moves, any contact the body surface has with another object stimulates the touch receptors, giving rise to impulses which travel to the brain to bring awareness. If the child sees the areas of contact, the visual stimuli become associated with the tactual stimuli so that later impulses from a given area are recognized as coming from a certain part of the body even though it is not seen.

The ability to appreciate motion and its results in space is essential to the development of the body scheme. Each time a skeletal muscle contracts it sends proprioceptive impulses to the brain which, through the process of synthesis with visual and tactual impulses, come to mean that a certain motion has taken place. The stimuli arising from skin, joints, muscles and similar tissue when there is no movement also contribute to the knowledge of the form of the body and the location of different parts of the body.

Purposeful movement is the *sine qua non* in the development of body scheme, for it provides the opportunity to synthesize and derive meaning about the body from many sources of information, especially vision, touch and proprioception. Schilder¹ has given one of the most extensive reports

*Assistant professor, department of occupational therapy, University of Southern California, Los Angeles, California.

on the body scheme. Bender² has discussed the concept and findings in relation to brain damaged children.

EVALUATION OF THE BODY SCHEME

Whenever any perceptual-motor deficiencies are encountered in individuals, the therapist should check carefully to ascertain whether or not there is a deficiency in the awareness of the structure of the body. MacDonald³ developed and standardized a test to determine body scheme deficiency in adults. There is no known standardized test which can be used with young children, however there are several procedures which can be employed to obtain a subjective evaluation of the amount of development or degree of deficiency in a person's concept of his body scheme.

One of the most frequently used procedures is to study a drawing which a child makes of himself. It is frequently a direct reflection of the individual's awareness of his physical self. Those parts of the self which have not been well incorporated into the body scheme are either not represented or are distorted. One of the most frequent distortions in figures drawn by individuals with mild disturbance in body scheme is the misplacing of the location of attachment of the arms to the trunk. It is often misplaced toward the waist. The distortion undoubtedly reflects the fact that the shoulder and shoulder girdle are often poorly incorporated into the body scheme, and associated with the difficulty in planning and executing skilled motions at those joints. This anatomical area is one of the most kinesiology complex segments of the body. The hands are also highly vulnerable to body scheme disturbance, probably because their use requires some of the most highly skilled motor planning which can take place in the brain. The ability to motor plan is closely associated with the body scheme.

The aspects of figure drawing which were found by Reznikoff and Tomblen⁴ to differentiate those with organic pathology from schizophrenia and neurotic groups were weak synthesis, parts misplaced, shrunken arms and legs, parts other than head and extremities distorted, and petal or scribbled fingers. It is probable that these deviations reflected body scheme disturbance. They are similar to criteria used by MacDonald.

Another commonly used check of body scheme development is the asking of a subject to touch a given anatomical part. To test knowledge of right or left, the right or left part is specified as in the command, "Touch your right ear." Individuals with perceptual-motor disturbance often avoid crossing the midline of the body, indicating that they have not united the two symmetrical halves of the body into a composite whole. The deficiency is tested by crossed commands such as,

"Put your left hand on your right shoulder," or "Put your right thumb on your left elbow." If the subject has not yet acquired the right-left distinction, the examiner demonstrates and the subject mimics.

The ability to visualize space relations associated with the body was evaluated by MacDonald by asking such questions as, "Is your head above your arms?" Correct answers to questions of this type are dependent upon understanding of the space concepts involved.

Finger agnosia may be tested by having the subject place his hands behind his back (or otherwise out of sight). The examiner gently pulls a finger to stimulate the proprioceptors as well as the touch receptors. The subject then points to the touched finger while looking at his hands.

METHOD OF DEVELOPMENT OF BODY SCHEME

Whenever a developmental process lags behind expectation, the rationale underlying procedures for facilitating growth is based on the steps and methods by which most children acquire knowledge and understanding. Those steps were briefly outlined above. When a child does not learn through the normal course of development to synthesize impulses into a body scheme, training procedures are based on increasing the flow of sensory impulses, developing a conscious knowledge of the construction and basic movements of the body, and associating the sensation and conscious knowledge through simple gross meaningful motor tasks.

Rood has used brush stroking of specific skin areas for the activation of touch receptors to facilitate reflex muscle contraction. Similar rapid, brisk brush stroking of anatomical segments is helpful in creating awareness of body parts. A rough cloth is also effective. While the subject is receiving the increased number of impulses, his attention should be called to the area and the name of the area of stimulation. For example, as the receptors in the arm are being stimulated, the therapist should say, "This is your arm. It goes from up here (stimulate shoulder) down to here (stimulate wrist). Your arm comes out of your chest here. This is called your shoulder. Your arm moves forward and backward, out to the side and in, and around like a wheel." The subject should be put through the motions as they are described. Immediately following this procedure the subject should engage in consciously planned motions of the arm. One of the simplest procedures is for the patient to duplicate the therapist's motions as he waves a flag or flies an airplane. The process of duplicating an observed motion requires visualization of one's own body, an essential component of body scheme and motor planning.

The use of heavy objects or sandbags attached to arms or legs is desirable because it increases the flow of proprioceptive impulses. Increased muscle tension should be called to the attention of the patient to assist further in the perception of movement and position. Pressure on bones activates additional receptors which contribute to the awareness of the body structure. If an individual has, in addition to body scheme disturbance, a central nervous system lesion resulting in lack of voluntary muscle control, the effects of increased sensory stimulation on muscle function must be considered.

Helping an individual to develop awareness of his body's structure by focusing on one segment at a time provides only a portion of the necessary training procedure. Knowledge of how the different segments are related to each other in position and movement is acquired through participation in gross motor activities, which should roughly follow the sequence of ontogenetic development. Activities involving rolling help a child to develop the concept of the body as a whole and the movement relationship of the head, trunk and proximal joints of the extremities. Crawling and simulated crawling activities are essential to the uniting of the two halves of the body so that they can perform motor tasks in a cooperative manner. Typical playground activities (jumping—as in jump rope and hop scotch, ball throwing, and climbing) are particularly helpful in developing body scheme for they involve simple basic motions and require strong muscular contraction. To help a child learn to perform an activity, the function should be broken down into the simplest components and the patient passively taken through each motion while it is verbalized. Crafts, such as wood-working, which involve the more gross motions are especially appropriate for body scheme training.

There are many childhood games which assist in the development of the body scheme. One of the earliest is "pat-a-cake." Later favorites are "peas porridge hot," "London bridge," and "Simon says." The game "Did you ever see a lassie?" can be well adapted to group training in body scheme. Charades can be used effectively. The person who is "it" acts out a simple task such as drinking from a glass or ironing while others guess what he is doing.

Actions directed upon the body are often difficult for those with body scheme disturbance. An effective training procedure involves the use of large rug yarn. The therapist wraps the yarn around some part of himself explaining at the same time what he is doing. For example, the therapist can say, "I am putting the yarn around my knees." Using large parts of the body is easier than the smaller parts. A difficult and advanced

procedure is to wrap the string around the fingers and ask the child to duplicate it.

When the body scheme disturbance is restricted to the fingers only, there are several specific procedures which are helpful. The child's hand is placed palm down on a sheet of paper. The therapist assists the child in drawing around it, naming the fingers as each is reached. After taking the hand away from the drawing, the child is taught which part of the drawing refers to which part of the hand, and vice versa. The therapist can also use his own hand to encourage generalization of the knowledge. The procedure can be repeated with the palm up. Using a similar drawing, preferably on cardboard, the patient is helped to mold a hand of non-hardening clay. Learning is increased by talking about the relationship of the parts of the hand. Verbalization might include the following: "We will put some clay here on the side of the hand to make the thumb. The thumb is far away from the other fingers. It comes out of the side of the hand. Let's put the clay over your thumb first to see if it fits. Now we'll put it down on the drawing." After the clay hand is completed, it is taken off the cardboard and shaped in different positions, such as in readiness to pick up an object. The child is helped to recognize what the clay hand is doing by putting his own hand in the same position.

Another game which should be used when body scheme disturbance is seen in the fingers only can be called "which finger?" The child places one hand under a pillow and the other on top. The therapist places one of his hands under the pillow and touches or pulls one of the child's fingers, asking him to show on the other hand which of the fingers it is. If he cannot tell, the therapist points to different fingers, one at a time, asking, "Is it this one?" The child is helped to learn by lifting up the pillow to check on the association of stimuli. The child's fingers under the pillow can also be placed in a specific position while he is asked to duplicate the position with the other hand. The use of hand and finger puppets following the above games helps to gain a carry-over into purposeful activity.

A limitation of many of the above more skilled activities is the lack of emphasis in increased sensory stimulation. It should be added whenever possible.

Ideally, body scheme training takes place on and through the body of the patient himself, as it occurs in normal ontogenetic development. There are some activities which rely too heavily on an intellectual approach to learning body scheme but can still be assistive in the process, especially when individual attention from the therapist is not available. Use of jig-saw puzzles of people or parts of them (such as heads or hands),

toys involving constructing a three-dimensional human figure, dolls made of sponge rubber over wire, cardboard manikins with movable joints, and paper dolls all help body visualization.

Deficiencies in body scheme give rise to anxiety and it is very easy to overly threaten a child in therapeutic procedures. The accompaniment of treatment with mild anxiety is probably unavoidable and perhaps even necessary, but therapists should be alert at all times to anxiety which might rise to the level of discomfort or interference with learning.



Figure 1. Self-drawing made on the third day of training.

A CASE STUDY

H. was a nine-and-a-half-year old girl with severe perceptual-motor dysfunction. Walking was awkward, with frequent falling which often traumatically stretched the knee ligaments. Motor planning of all types was difficult, particularly in constructive hand work. In spite of these limitations H. had learned to button buttons located on her back.

A test of body scheme showed that she could not identify a finger from the senses of touch and proprioception. H. was unable to successfully point to different anatomical parts, such as a hand, cheek, or foot. She had trouble crossing the midline of her body with a hand and had no concept of right and left. Questions such as "Is your head above your arms?" completely baffled her. H. participated in an intensive four weeks' program of training* in the following areas: gross motor, fine motor, eye motor, speech, and pre-academic. Training in body scheme roughly followed the rationale and procedures discussed above.

On the third day of training H., in response to the request to make a picture of herself, produced Figure 1. (It was the better of two attempts.) The

*Summer Achievement School, Stevens Point, Wisconsin, sponsored by the Society for Brain-Injured Children, Inc., Milwaukee 2, Wisconsin.



Figure 2. Self-drawing made nineteen days after first drawing.



Figure 3. Self-drawing made twenty-one days after first drawing.

drawing appeared to be a head with an eye, nose, and possibly mouth. The drawing and other observation suggest that H. was somewhat aware of her face but had little concept of the rest of her body and no concept of bilaterality of her structure. Nineteen days after the first figure was drawn, H. drew Figure 2 as a representation of herself. She had become aware of her trunk, neck, and possibly a leg but still showed a single eye. In

(Continued on Page 128)

EFFECTS OF INTENSIVE OCCUPATIONAL THERAPY ON CHRONIC SCHIZOPHRENIC PATIENTS

WILLIAM R. CONTE, M.D.*

MANUEL J. OTERO, M.D.†

JOHN H. GLADFELTER, Ph.D.‡

Chronic schizophrenia continues to be a perplexing psychiatric treatment problem representing tremendous losses in human potential and a severe drain on funds available for the care of the mentally ill. The problem is accentuated by the absence of sufficient psychiatric personnel. The personnel problem is probably not to be solved simply by the training of more psychiatrists. Rather, the solution may lie in the development of other psychiatrically oriented personnel already available. One approach, presented by Freeman, Cameron and McGhie,¹ has stressed the role which the psychiatric nurse may play in the rehabilitation of the schizophrenic patient. These investigators place emphasis on the therapeutic potential in the nurse-patient relationship. Brody² emphasizes the significance of occupational therapy in this regard. He states: "Hospital activities such as occupational therapy, aside from their individual treatment significance, help to break down interpersonal barriers, help the patient form relationships, diminish his sensitivity and increase his feeling of personal security." Studies by Springfield and Tullis,³ Carstairs et al⁴ and Nicolaou⁵ have indicated that intensive occupational therapy could alter the behavior of chronic schizophrenic and chronic psychotic patients in a significant fashion.

Few attempts have been made, however, to objectively evaluate the effects of occupational therapy techniques and the development of interpersonal relationships in over-all patient improvement. This study addresses itself to an attempt to demonstrate, by the use of controls, significant objective changes in the behavior of chronic psychotic patients treated by intensive adjunctive therapy.

THE PROBLEM

Our hypothesis is that intensive occupational therapy and other rehabilitation therapies will produce significant improvement in the mental status and social behavior of the chronic schizophrenic patient.

Implicit in the hypothesis is our strong feeling that the personal relationship inherent in these therapies is ultimately responsible for their effectiveness.

THE POPULATION

The population for this study consisted of forty chronic schizophrenic female patients between the ages of 27 and 67, with a median age of 48 years. The length of stay in the hospital ranged from 2 to 32 years, with a median hospital stay of 10 years. The subjects chosen were from the most regressed of the patient population of the Terrell State Hospital in Terrell, Texas. All the patients were diagnosed chronic schizophrenic. In some of the patients the regression was manifest by extreme physical and psychological deterioration and unresponsiveness. Some had to be dressed and some had to be fed. An evaluation of the patients indicated that there were no individuals in the group with brain damage.

The wards in which these patients resided were in an old, gloomy building in a bad state of repair. The floors were cement and, although kept clean, did not present a pleasurable sight. These wards housed approximately 75 to 80 patients each, and staff workers were not plentiful, with the result that individual care of patients could not be carried out ideally.

THE DESIGN

The 40 patients were divided at random into two groups of 20 patients, and these groups were known as "experimental" and "control." Both groups of patients were taken from the total population of two chronic wards and the experimental and control groups were equally represented in the two wards.

EVALUATION PROCEDURE

There are few measuring instruments available which are suited to this low level of functioning. The Psychiatric Behavior Scale devised by Rowell⁶ seemed most suited for this evaluation because of its clarity, simplicity, and relatedness to descriptive terminology. This test places particular emphasis on affect, attitude and preoccupation with psychi-

*Associate clinical professor of psychiatry, University of Washington, Seattle, and supervisor of division of mental health, department of institutions, Olympia, Washington.

†Clinical director, Terrell State Hospital, Terrell, Texas.

‡Clinical psychologist, University of Texas, Southwestern Medical School, Dallas, Texas.

atric symptomatology. Studies of reliability and validity supported this choice of scale as being meaningful in terms of behavioral changes.

The Minimal Social Behavior Scale by Farina, Arenberg, and Guskin⁷ was chosen as a second method of evaluation because it seemed to tap other important factors of the chronic schizophrenic processes. This scale is related to social adaptability.

THE JUDGES

Five Red Cross psychiatric volunteers were chosen as one rating group because of their interest and previous experience. Although these women represent the layman group of judges in this study, they were more sophisticated than the average layman because of their experience with psychiatric patients.

A second rating group was composed of two psychiatric nurses and one psychiatric hospital chaplain, and the third group of raters was composed of two hospital psychologists. None of the judges had previous contact with any of the patients and their only experience with them during the study was for the purpose of obtaining the evaluations.

The judging groups individually rated all forty patients three days before the beginning of the intensive rehabilitation program. Their ratings were made on the basis of observations made through a one-way screen as they witnessed individual interviews conducted by a consulting psychiatrist. The raters were not aware of the division of patients into the "experimental" and "control" groups.

The interviewing psychiatrist was acquainted with the Psychiatric Behavior Scale being employed by the raters, and he structured his interview to aid the raters in making their judgments. When the psychiatrist felt that he would be able to make the ratings himself on the information which had been obtained from the patient, the interview was terminated.

Prior to the therapy program the two psychologists also conducted individual interviews of each patient upon which they based their ratings on the Minimal Behavior Scale.

Upon termination of the occupational therapy program all ratings by the same personnel were repeated, using identical procedures and rating scales.

THE TREATMENT PROCEDURE

The occupational therapy department of the hospital, in consultation with the psychiatric staff, carefully planned an extensive rehabilitation program for the experimental group. Fifteen members of the occupational therapy staff were designated to carry out the plans. The program in-

involved daily patient contact of a minimum of six hours and as much as ten hours per day per patient. Activities ranged from passive involvement, such as reading in the library, attending movies both on and off the ward, and so on, to moderately vigorous activities, such as personal grooming and care of clothing, scenic bus rides, and cooking and household arts. More active participation involved games and calisthenics and organized occupational therapy clinic work. The control patients did not participate in these activities, whereas the experimental group was compelled to participate in them.

Prior to this study, most of these activities were available to the patients on a voluntary basis, but none of them had shown even the slightest interest.

The intensive occupational therapy program was conducted over four consecutive weeks. During the study, all 40 patients remained in their usual ward placement and were allowed to mingle with the other patients on the wards. No alterations were made in regular hospital routine.

Weekly evaluations were made of patient behavior by the occupational therapy staff members working in this study. This evaluation consisted of a check list of 18 items which described socialization, cooperativeness, attention, participation, interest, and emotional involvement. This questionnaire helped the therapist describe the behavior of the patient and helped her plan further activities. It was also employed to observe the relationship between occupational therapists' judgments of patient improvement and those judgments made by the three ratings groups. No computations were made on this questionnaire because appropriate controls could not be set up.

Group supervision was provided by the consulting psychiatrist and the clinical director in order to create an outlet for staff feelings in relation to problems of resistance, hostility, and so on. These meetings were held at the end of the first, second, and third weeks of the study.

Tests of reliability of the Psychiatric Behavior Scale were made to determine the agreement of the Red Cross volunteers on their ratings. A similar check was made on the ratings for the two psychiatric nurses and the chaplain. Tests of reliability of the Minimal Social Behavior scale used by the two psychologists were also made. Each of these revealed levels of confidence at the .001 level, indicating an agreement that could be expected only one time in a thousand on a chance basis. Comparison of the Red Cross volunteer group with the professional group revealed a correlation also at the .001 level, and a comparison of the psychologists' ratings with the professional and volunteer groups showed a correlation at the .01 level of confidence.

The index for change of improvement in the patient groups was made by comparison of the pre-treatment and post-treatment ratings of each individual rater for each patient. The difference scores were obtained for the three rater groups and a Mann-Whitney U test was applied to determine the significance of the differences between the experimental and control groups. All values obtained indicated differences in the predicted direction, i.e., the improvement of the experimental group greater than that of the control group. The differences were significant at the .001 level of confidence for the Red Cross volunteers and for the professional group, while the differences between the groups were significant at the .01 level of confidence in the ratings of the psychologists. In comparing the three groups of raters, a .01 level of confidence was noted, which indicates that the improvement noted would have occurred on a chance basis no more frequently than once in one hundred times.

A comparison of the improvement in the experimental group with the age of the patient, length of stay in the hospital, and years prior to hospitalization did not reveal significant differences. A comparison of the control group on these variables likewise failed to reveal significant differences.

Clinical observations were made of the staff supervisory hours as the study progressed. During the first supervisory session it appeared that there was considerable tension and anxiety. Many questions were asked in regard to the specific requirements placed on the therapist in this research study. Concern over losing one's job if the study group did not improve was not mentioned; however, it was reflected in the anxiety and concern over doing the job correctly.

The staff had some objections to the highly structured and compulsory rehabilitation program. However, when the necessity of this for research purposes was made clear, it seemed to be accepted. By the end of the first supervisory hour, the staff was more comfortable, the interest level was very high and the staff was trying hard.

During the second hour of supervision there was much discussion about the fatigue which the patients seemed to be experiencing. There was also some feeling expressed for the group of patients who were being pushed and worked so hard. Apparently the patients were feeling sorry for themselves. One of them indicated that they had been off the ward five times in one day and said, "Do I have to go again?" Another one was overheard to say, "Don't worry about this chasing around; this project is about over!" It was pointed out that fatigue was a reality factor and that the patients probably were not physically up to some of the activities which they were expected to per-

form. It was also observed that the symptom of fatigue was an important sign because it did indicate that the patients were able to react even though they had been severely regressed and apparently had not been interested in their surroundings. Some feeling was also expressed about fatigue among the members of the staff.

One of the therapists indicated that after the end of the second week he had become comfortable with the patients. He also indicated that he had had a fear of losing his job and that he had just now overcome this fear. The discussion the week before had helped to reassure him that no undue pressure was to be put on anyone. He then stated that for the first time he could forget himself and could relate to patients. He seemed pleased with this result.

At the beginning of the final conference several members of the staff indicated that they were very tired, that they had felt pushed, and although they did feel a bit more comfortable, the fatigue was overcoming them.

It was interesting to note that although the staff involved in this study included 15 members, not one member missed a work day during the experimental period of one month. One of the members stated, however, that she had gone home sick a time or two.

The patients showed a continuing interest in things going on around them. One of them was worried about leaving clothes in the washateria, another one was very much concerned that there might not be enough candy to go around and that the occupational therapist might not have some. She was very much relieved when the occupational therapist was served.

Many physicians, especially those who are concerned with the concept of "one-to-one" in the doctor-patient relationship, are often reluctant to bring the occupational therapist into the treatment team. Others who might be more generous in attitude with certain minor personality reactions would feel very strongly about the occupational therapist working with the schizophrenic.

In this study an attempt was made to demonstrate a workable plan for the development and supervision of an occupational therapy program which would begin to meet the demand for treatment of the chronic mentally ill patient. It was hoped that this sort of program might be another step toward elimination of the unfortunate "back ward" situation and custodial care which is so often the fate of the chronic patient.

The armamentarium of the occupational therapist in the arts, crafts, and specialized skills are important in themselves in the building and restructuring of the patient's world. However, we feel these skills are secondary to the interpersonal

(Continued on Page 128)

MUSCLE STRENGTH AND RESULTANT FUNCTION IN CERVICAL CORD LESIONS

ESTHER BELL, O.T.R.*

ROSE M. ELLIOTT, O.T.R.†

ODON F. VON WERSSOWETZ, MD., F.A.C.P.‡

Maximum independence in the many phases of daily life is the ultimate goal of all rehabilitation, but it is especially important in the treatment of the quadriplegic patient with cervical cord lesion. Because of the severity of the involvement and resulting extreme limitation of function, each new activity which such a patient can learn to perform independently becomes a major accomplishment. Therefore, all treatment should strive to assist him in becoming as independent as possible. But how much is it possible for a quadriplegic patient to learn to do for himself? How high should our aims be? To find the answers, 55 quadriplegic patients at the Texas Rehabilitation Center were studied over a period of several years. Partial findings of this survey are found in Chart I.

It became evident that the first step was to determine just what residual muscle strength was usually present in quadriplegic patients since there is considerable variability. Each of our patient's upper extremity muscles was recorded on a master chart as either zero, present but non-functional (trace to fair strength), or as functional (fair plus to normal strength). These muscle tests were then arranged in order of severity, starting with the most involved cervical cord injury and moving down to those patients with a lesser involvement. From this we arrived at a sequence of functioning muscles starting with those that all quadriplegics who managed to survive would have and progressing on down to levels with successively lesser involvement. This analysis does not necessarily represent clear-cut segmental levels, such as C-5 or C-8 lesions would show, but rather indicates areas or groups into which these patients tend to fall clinically. It is important to note that each new group has an addition of one or more muscles to those of the preceding groups.

Into Group I fall those patients with the most severe involvement. Only the four muscles shown on the chart are present and these may not even be of functional strength. We do not often see patients classed in this group bilaterally. It is more frequent to find this pattern in the weaker arm, in asymmetrical involvement.

Group II is a more common group of quadriplegic involvement. There may be considerable variation within this group as to which muscles

are stronger in each patient, but at least those muscles in Group I are now of good strength and the majority of the other muscles in this group are of functional strength.

Group III. The addition of a radial wrist extensor marks a turning point in the functional abilities of the patient, so it warrants being the sole difference between Groups II and III. Actually, the radial wrist extensor may appear in a non-functional strength in Group II, but a patient is not designated as being in Group III until the radial wrist extensor is of fair plus strength or above.

Group IV. These patients usually have good strength in those muscles that are present in the previous groups, but there may be some variation in strength in the additional three muscles. In some instances the serratus anterior is much stronger than the pectoralis major, and in other instances the reverse is true.

Group V. Here again is a definite turning point as far as future functional proficiency is concerned. Those patients who have a radial wrist flexor almost invariably have a triceps of about similar strength. Latissimus dorsi may be quite variable in strength but is usually present. All muscles in the previous groups are quite strong in those patients who fall into this group.

Groups VI and VII. Too few of our patients fell within these groups to arrive at any definite conclusions, but there seemed to be a trend toward finger and thumb extrinsic muscles being present before the intrinsic of the fingers. The exact placement of ulnar wrist flexor and extensor was, likewise, not easily determined due to lack of any great number of patients with these muscles.

THE APPLICATION OF CHART I

This chart can be used as an aid for a quick assessment of the patient. However, this must be followed by further detailed evaluation.

The radial wrist extensor is the focal point to note on initial examination of the patient. This muscle is easily accessible to checking and testing, whether the patient is seen in bed, on a

*Occupational therapist, Texas Rehabilitation Center, Gonzales Warm Springs Foundation, Gonzales, Texas.

†Chief occupational therapist.

‡Medical director.

Upper Trapezius Biceps Supinator Anterior & Middle Deltoid	GROUP I
Middle Trapezius Lower Trapezius Brachioradialis Rhomboids Posterior Deltoid Outward Rotators Inward Rotators	GROUP II
Radial Wrist Extensor	GROUP III
Serratus Anterior Pronators Pectoralis Major	GROUP IV
Triceps Radial Wrist Flexor Latissimus Dorsi	GROUP V
Ulnar Extensors & Flexors (wrist & fingers) Finger & Thumb Extrinsic	GROUP VI
Thumb & Finger Intrinsic	GROUP VII

CHART 1

stretcher or Stryker frame, or in a wheelchair. The absence of a radial wrist extensor will indicate that the patient is in Group I or II. The presence of a radial wrist extensor should be followed by a check of the radial wrist flexor. The absence of the radial wrist flexor would require a careful check of serratus anterior, pectoralis major and pronators, in addition to the evaluation of those muscles in the first two groups. The presence of a radial wrist flexor would indicate a need to check the triceps and, if present, to evaluate the thumb and finger muscles.

The only patients who cannot be adequately categorized and placed correctly in a group by this chart are those with obviously bizarre injuries, as evidenced by the presence of lower extremity muscle power while the upper extremity is still weak. Severe spasticity or contractures will also make it difficult, but not impossible, to place a patient in one of the groups. Also, some patients

may have one arm that fits with one group while the other arm is with another. This split must be taken into consideration when trying to determine the functional potential of the patient.

The next step, that of ranking the same patients according to their functional achievements, produced a similar grouping pattern to that found in the muscle strength chart. From this it was possible to correlate strength and function and produce the next chart (Chart 2) which lists the activities of daily living that would be possible for each muscle strength group and also what type of equipment might be necessary. This chart lists only time-tested items which were accepted and put into practice by the patients.

It is obvious that Group I has very limited functional abilities, but when it is recalled what limited muscle strength is present in this group, even this much function is remarkable. These patients usually need either feeders, overhead slings,

Feed self Brush teeth Comb hair Write name Type on an electric typewriter	Using: Spring Clip Tubular Splint ¹ and Feeders, Slings or pulleys	GROUP I
Shave with electric razor Type on standard type writer Write for practical purposes Apply lip stick Wheel self within a room Use telephone	Using: Spring Clip Tubular Splint Hooks may be practical	GROUP II
Put on and remove apparatus		GROUP III
Use tendon action for grip and use less apparatus		GROUP IV
Wheel self Dress upper extremities Roll over in bed Transfer with assistance		GROUP V
Come to a sitting position in bed Transfer independently (men) Transfer with some assistance (women) Dress self		GROUP VI
No significant new functions, but will perform above activities with greater ease.		GROUP VII & VIII

CHART 2

or counter-balance pulleys to assist in arm raising for although they have deltoid muscles present, these may not be of functional strength. Also, these patients do not have scapular rotation to assist in arm raising nor do they have the outward rotation of the arm so necessary for hand to mouth motions. The spring clip tubular orthosis¹ serves as a holding device for their utensils. While the majority of these patients can manage in some way to take off and put on the splint, they do not usually do so since it is too fatiguing for them. A lowered vital capacity in these patients tends to leave them with little endurance, and all their energy must be conserved for the function that they find most necessary and most satisfying. As a result, these patients can accomplish their

function only after being assisted in applying their apparatus.

Group II no longer needs assistance for arm raising. These patients can handle heavier utensils in their orthoses, such as an electric razor or a telephone receiver. Each of these requires a special adaptation on the utensil that fits into the tube of their splint. While an adaptation is sometimes used for the lipstick tube, the majority of the patients learn to push the two splinted hands together and hold the items between them. Wheeling of the chair is facilitated by rubber grips being applied at intervals around the wheelrims. This allows the flail hand to catch between the grips and provides some push through the arms. This is usually fatiguing and slow and is only

practical for traveling within a room.

One further advantage that Group II has over Group I is the ability to put on and remove the orthosis and insert all the adapted utensils independently. This renders the patient quite independent in these activities as long as the utensils are within his reach.

In this group, it may be possible to use hooks activated by shoulder girdle and arm motions, but this depends to a large extent upon the individual patient. These patients very often find the operation of a hook too difficult, since they do not have normal shoulder girdle musculature and particularly are missing the serratus anterior, a significant muscle in this operation. Also, their endurance is low since they, like all quadriplegic patients, do not have a normal vital capacity and may find the operation of a hook too tiring. The patients also tend to object to the fact that they cannot put on and remove the hook and harness by themselves. Due to these various disadvantages, very often the patient prefers to forego grasp and release for a static holding device, such as the tubular splint, which is lightweight, causes little fatigue, and can be put on and removed at his own discretion.

Group III, with the presence of a radial wrist extensor, has the potential for developing a form of grasp and release without any active finger muscles. The long finger flexors must not be excessively stretched out but often should be allowed to become a little tight. Then if there is also sufficient mobility of the metacarpophalangeal joints, extension of the wrist will produce, through the natural pull of the flexor tendons of the fingers and thumb, a gross finger grasp plus a thumb and index finger lateral pinch. Release can be achieved by allowing the wrist to fall into flexion. This tenodesis-like action can be good enough to obtain a firm and controlled hold on most sizes of objects. In its less perfected forms it will, at least, allow the patient to pick up lightweight objects, even though possibly he cannot maintain a firm hold on the object. At this level much attention should be paid to the development of the use of the hands, because this will determine the difference between a patient essentially no better off than one in Group II and a patient who can accomplish all the previous functions with much greater ease and without as much apparatus.

Group IV. This group is able to attempt the more difficult activities requiring handling of the entire body. They can wheel themselves without undue fatigue within reasonable limits, using the same handgrips as in Group II. They can wheel with good speed but not always with the greatest dexterity. If they have not achieved tendon action, they may still need some form of cuff or clip on their hands for holding their utensils for the basic

activities of daily living. At this level, the ability to dress the upper extremities, to roll over in bed, and to perform some transfer skills will depend to a great extent upon the determination and drive of the patient, as well as his general endurance. Young men at this level can sometimes achieve complete independence in transfer activities.

Group V. This group is ready to achieve a maximum in independence. It is common for young men at this level to become quite independent, while women may still need some assistance, but at a minimum.

The skills listed for each group do not just happen. They represent the potential goals and can only be achieved through the use of the proper types of orthoses, adequate training and, above all, the initiative and interest of the patient. There are many other factors which change the goals. Presence of severe spasticity may hinder the patient or, in some cases, mild spasticity can assist the patient. Contractures can be limiting, as can overweight, a general debilitated condition, or the presence of severe decubiti. An injury which renders one arm much more severely involved than the other often keeps the functional level of the patient at, or near, the level of the more severely involved arm.

These charts, grouping the patients by muscle strength and showing possible skills for each group, should assist in evaluating and setting realistic goals, thus focusing attention on what should be possible for each patient to achieve.

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ELECTRICAL COMMUNICATION DEVICES

MORRIS VAL JONES, PH.D.*

Early attempts to establish communication with severely involved cerebral palsied children were limited to variations of the "twenty-questions" technique. Later enterprising occupational therapists began to assemble simple communication boards. When Barbara Feallock¹ wrote concerning communication boards, she confined her discussion to non-mechanized devices. The present article will present material about attempts which have been made to utilize mechanized apparatus for non-verbal individuals.

Several years ago the more mechanically minded teachers of the cerebral palsied began to think in terms of a display panel with an electrically driven pointer. Robert LaVoy, a teacher in San Mateo, California, invented *Rick's Communicator*.²

The display panel has sufficient surface to display various legends which indicate different types of information that the individual may want to convey to others. A pointer moves around the display panel by power operated by means to bring it in alignment with the information which the child wishes to convey. The power operated means is controlled by an electric eye switch which can be attached to the child's desk or any other suitable place where he can be near it. The only movement necessary to initiate the power is that of some part of the body that will break a beam of light. Finger, head, foot, or any part of the body that the child can control slightly will suffice. Once the beam of light is broken, the power means goes into effect and the pointer moves about the display panel. When the child has the pointer aligned to the information, he removes obstruction from the light and the power becomes ineffective to cause a movement of the pointer.

The father of a student at Sunshine School in San Francisco perfected a panel device in which he employed an electric switch in place of the electric eye. Such devices have been used successfully in teaching reading, spelling and number work. By this method a child can be tested on academic material presented to him, and he can be taught to make his basic wants known.

Early in 1957, an electro-mechanical machine which can be attached to an electrical typewriter was "unveiled" at the School for Cerebral Palsied Children in San Francisco.^{3,4} Designed by Superintendent E. A. Lown and executed by the Advance Automatic Sales Company, it has made communication possible for those cerebral palsied individuals who had previously been unable to speak, write or type. The operator needs only one controlled movement to activate a switch with his head, hand, foot, or any part of the body which can depress the



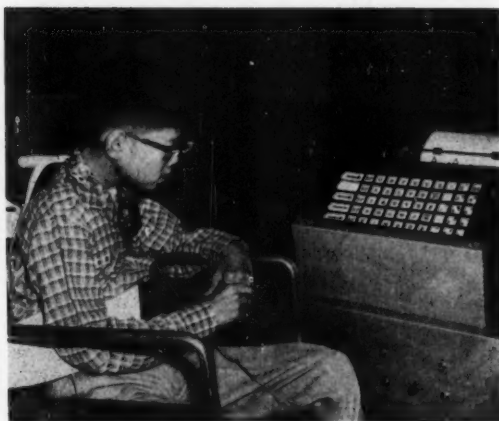
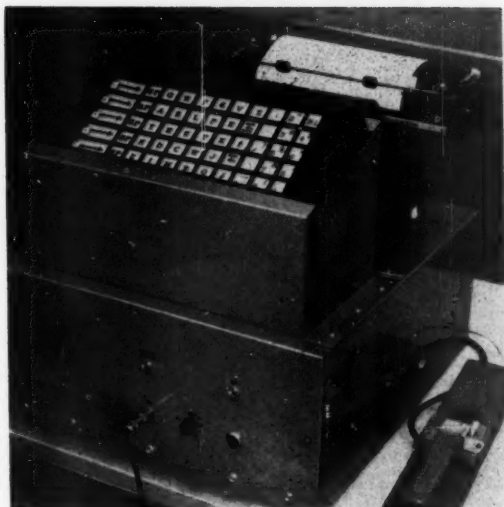
A communication device utilizing an electrically driven pointer

key. Numerous switches have been devised to capitalize upon whatever muscular control the child attains. The occupational therapists at the school have experimented with this machine — tentatively called V-I-S-I-T (visually indicating single impulse typer) — to find a way in which the child can use it. Mrs. Beverly Tollefson, supervising occupational therapist, says:

The part of the body which can best control the switch is determined by the occupational therapist through her knowledge of the child's motor control and actual practice with the switches. When the child has gained sufficient accuracy to make the device useful to him, it is transferred to the classroom."

On the panel of *VISIT* the letters of the alphabet, together with the cardinal numbers, a spacer, and carriage return are arranged according to frequency of use, i.e., the most frequently used symbols appear at the left side of the panel. When the machine is turned on, each letter flashes on in succession for a period of approxi-

*Director of research, School for Cerebral Palsied Children, San Francisco, California.



The Visually Indicating Single Impulse Typewriter equipped with modifications of the electrical switch.

mately six seconds. The person operating the machine sits before it with one of the switches. When the proper letter lights up, he depresses the key. The electrical impulse activates a special coil over the corresponding key on the typewriter and the letter is printed on the paper. Operation of the machine presupposes that the child has the intellectual competencies which would be required for typing.

Robert Foster, teacher of the cerebral palsied at the California State Hospital in Sonoma, borrowed *VISIT* for a trial period in his classes. He concluded that the machine has "great possibilities with the severely involved patients."

The therapists at the School for Cerebral Palsied Children have made a ten-minute movie depicting the operation and use of the machine.

Recently an electronically controlled Magne-typewriter has been developed at the rehabilitation center of the Hadley Memorial Hospital in Hays, Kansas.⁵

It consists of two parts, an actuating box which sits over the keyboard of an electric typewriter, and a large

composition panel board fitted with copper contacts the size of dollars. With a stylus attached to his head, the operator can touch a letter on the control panel which activates the box on top of the typewriter. A small rod comes down to press the desired key.

Experimentation continues in behalf of the silent few in the world of the cerebral palsied. More efficient electrical and electronic devices will be invented to assist these severely handicapped individuals to express themselves. Only a beginning has been achieved in this relatively unexplored field.

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COMING EVENTS . . .

Thirty-eighth Annual Conference of the American Physical Therapy Association. The Palmer House, Chicago, Illinois, July 2-7, 1961.

Workshop on Rehabilitation of the Disabled Homemaker. Michigan State University, East Lansing, Michigan, July 2-8, 1961.

Ninth Annual Meeting of the Canadian Association of Physical Medicine and Rehabilitation.

AJOT XV, 3, 1961

Bessborough Hotel, Saskatoon, Sask., August 24-26, 1961.

American Congress of Physical Medicine and Rehabilitation, Hotel Sheraton, Cleveland, Ohio, August 27-September 1, 1961.

Conference of the American Occupational Therapy Association, Sheraton-Cadillac Hotel, Detroit, Michigan, November 2-10, 1961.

NEUROPHYSIOLOGICAL CONSIDERATIONS IN OCCUPATIONAL THERAPY FOR THE CEREBRAL PALSIED

EDWARD D. MYSAK, PH.D.*
MARY R. FIORENTINO, O.T.R.†

In a recent paper¹ it was indicated that because of the limited gains made by more conventional cerebral palsy therapies, e.g., program of direct teaching of motor tasks in association with special assistive devices and orthopedic surgery, various individuals,^{2,3,4,5} have been exploring the value of applying neurophysiological theory to such therapy. It was also pointed out, in the course of studying these ideas, that the theory and therapy rationale of the Bobath² approach was especially stimulating and, subsequently, was responsible for motivating a pilot study as well as the development of two films.^{6,7}

It was during the course of the pilot study that the Newington occupational therapy department, which was taking an active part in the study, became impressed with the potentialities of applying these techniques in their work with cerebral palsied children.

Therefore, the specific purpose of the paper is to discuss the theoretical and practical significance of utilizing the basic principles of the Bobath approach in occupational therapy for the cerebral palsied.

Before a description of the specific application of this philosophy in occupational therapy may prove meaningful, a substantial definition re-orientation, as well as some discussion of treatment rationale, is in order. The Bobath hypotheses, as outlined by Mysak,¹ will serve as the basis for this portion of the paper.

INTRODUCTION

According to a neurophysiologically based view, cerebral palsy may be seen as the reflection of a lesion which manifests itself, to a large degree, by phylogenetically older postures and movements in association with abnormal muscle tone. This definition may be considered more useful from the therapeutic standpoint since primary motor involvements, e.g., specific damage to upper motor neurons along the Rolandic fissure, or negative symptoms, are theoretically irreversible. The definition, therefore, directs the therapist to concentrate on what may be considered the greater and more tractable aspect of what is called cerebral palsy, the release, or positive symptoms.

Classification of cerebral palsy under this type of definition is as follows:

(1) Children who are fundamentally prone-supine lying, or apedal creatures and who show a predominance of spinal reflexes such as the flexor withdrawal, etc., (see reference no. 1 for complete list of reflexes under each classification) and brain stem reflexes such as the tonic neck reflexes, etc. (2) Children who are basically four-limbed, or quadrupedal creatures and who reveal a predominance of thalamic or midbrain reflexes such as the neck righting reflexes, etc. (3) Children who are basically two-limbed, or bipedal creatures and who reveal a predominance of equilibrium reactions mediated by the efficient interaction of the whole central nervous system, i.e., cortex, basal nuclei and cerebellum. Various degrees of severity and combinations of the above described levels of neurophysiological phylo-ontogenesis are usually seen in the clinic.

Rationale for the treatment approach is based on at least five concepts. These are: (1) The central nervous system can be influenced from the periphery. (2) Cerebral palsied children usually have more motor potential than they ordinarily manifest. (3) Cerebral palsied children usually have more sensory response capacity than they manifest. (4) Motor developmental tasks emerge as a function of reflexive maturation. (5) Motor task assimilation depends on the establishment of certain higher chain synaptic arrangements. Because of the rather thorough explanation of these concepts in a former paper,¹ only points one and four will be elaborated upon here:

As for the central nervous system being influenced from the periphery, Magnus⁸ "Law of Shunting" reveals that the state of contraction and elongation of muscles determines the distribution of excitatory and inhibitory processes within the central nervous system and the subsequent efferential outflow. This statement suggests that by manipulating the body musculature new and different shuntings of afferential inflow and, consequently, efferential outflows may be possible.

*Assistant professor of speech, University of Connecticut and director of speech education, Newington Hospital for Crippled Children, Newington, Connecticut.

†Director of occupational therapy, Newington Hospital for Crippled Children, Newington, Connecticut.

REFLEXIVE MATURATION AND MOTOR ACTIVITY

Age	General Reflexes (9)	General Motor (10)	Automatic Hand Movements (10)	Intentional Hand Movements (11)
1-4 weeks	Neck Right: present Asymm. T.N.: varies Moro: strong	Head erect:	Grasp reflex; Hand to mouth: 1 month	
2 months	Laby. R. on head: present Neck Right: present Moro: present	Prone: 1-3 months	Ulnar fingers Strong; grasp in pronation: 2 months Pulls; hands loose: 3 months	
4-6 months	Laby. R. on head: gains Moro: diminishing Landau: commences Protect ext. of arms: strong	Supine: 4-6 months	Clutching (body, hair, dress): 4 months Scratches, Rakes (Ulnar): 5 months	Reaches Unilaterally: 6 months
7-12 months	Asymm. T.N.: present in few Landau: more frequent Body R. on body: est. in some Protect ext. of arms: present	Crawling: 7-8 months Sitting 8-10 months	Slaps, scratches, rakes (whole): 7 months. Radial raking; scissor grasp: 8 months	Grasps String: 7 months Secures pellet (whole hand): 8 months Secures pellet (scissor grasp): 9 months Scribbles (imitation): 12 months Unwraps toy— 8½x11"
12-14 months	Asymm. T.N.: disappears Landau: present in 12 of 13 Neck R.: doubtful in some Protect ext. of arms: present Body R. on Body: change to transitional form	Standing: 12-13 months Walking: 12-18 months	Hitting; pushing; pincer grasp; waves; shakes; clasps; pokes; 10 months Release: 12-18 months	Onion skin: 14 months

TABLE I

It may be recalled that the neurophysiological definition implied that a substantial portion of the cerebral palsy problem manifests itself by release phenomena, or the control of movements, postures and tonus by phylogenetically older centers. Hence, actual neurophysiological gains might be appreciated if certain techniques could weaken the influence of these lower centers and allow afferential inflow to be integrated at higher levels. If this could be done, and from a clinical point of view it appears it can, it would then become possible to discover what unmanifested higher types of motor potential each child possesses.

Along these lines, point four indicates that motor developmental tasks emerge as a function of reflexive mechanism maturation. Therefore it follows that, if motor disturbances in cerebral palsy are basically due to a disturbance in reflex-

ology, the emphasis in therapy should not be on direct teaching of motor tasks but, rather, on the stimulation of all the reflexive maturational potential that each child may possess. Table I illustrates this crucial point. Note that from this standpoint walking is not the result of direct teaching but in contrast emerges as a function of the maturational process responsible for inhibiting infantile reflexes and allowing the development of higher integrated righting and equilibrium reactions. From the occupational therapy standpoint, hand activities may be seen to follow a corresponding type of sequence. That is, the progressive weakening of primitive movements and the emergence of higher integrated hand activities.

In keeping with this discussion, it may be appreciated that direct teaching of early motor tasks without regard for neurophysiological readiness

may actually impede rather than facilitate the development of *normal* children. Yet this is exactly what is being done by many therapists working with *neurophysiologically* disturbed children.

With the new definition as well as some of the treatment rationale in mind, it should now be easier to follow a description of the general aims of the Bobath approach.

BASIC CONCEPTS OF THE BOBATH APPROACH

In essence, there are three basic steps in therapy and these include: (1) Analyze for level of reflexive maturation. (2) On the basis of this analysis, design reflex inhibiting postures (R.I.P.'s) which have been observed clinically to normalize muscle tone and to enable shunting of afferential inflow beyond primitive sensory pathways. (3) Once a particular R.I.P. is effective, activate higher integrated movement reactions by a technique called facilitation. Perhaps one example of the application of this three step approach would serve to clarify the procedure.

Imagine being confronted with a child who cannot raise his head in the prone-lying position, or a child who does not manifest the labyrinthine righting reflex acting on the head. After the first step or analysis, it may be found that the child cannot raise its head because of the influence of the tonic labyrinthine reflex in the prone position, which manifests itself by an increase in flexor tone throughout the body. In order to ascertain whether this released brain stem reflex is preventing a potentially present head righting reflex from emerging, an attempt at weakening or suppressing the primitive reflex must be made. This means the application of the second step or the imposition of an appropriate reflex inhibiting posture. Since the primitive reflex described is characterized by a generalized increase in flexor tone, it may be discovered that by reversing the abnormal posture, i.e., by changing, in general, flexor-adductor-inward rotation patterns to extensor-abductor-outward rotation patterns a tendency toward muscle tone normalization may be observed. In addition, as previously stated, this situation often enables shunting of sensory inflow to higher centers. This prepares the way for the last step or the facilitation of a higher integrated motor reaction, in this case, the labyrinthine righting reflex acting on the head. This may be done by (1) making certain that the inhibiting posture is effective; (2) grasping the wrists and gently pulling until the shoulder girdle is slightly raised; (3) gentle shaking. Depending on the child's potential, this procedure, even at the very first attempt, may excite the labyrinthine righting reflex acting on the head.

This section may be summarized with the following quotation:¹

Bobath therapy is fundamentally a tactile-proprioceptive approach designed to actualize the frequently unmanifested, but potentially present, higher motor mechanisms....In addition, it also tends to minimize secondary deficits resulting from distorted sensory feedback. Essentially, the approach includes the following steps: (1) motor desynthesis, or the reduction of muscle tone and the excitation of new shunts to facilitate the eventual disintegration of tonic level motor stereotypes, (2) motor elaboration, or the stimulation of new motor activity, i.e., automatic righting and equilibrium reactions, and (3) motor resynthesis, or the use of these additional motor behaviors in the development of volitional and refined motor activities.

As a way of schematically summarizing the preceding sections, Figure I is presented. Note that sections one and two outline levels of central nervous system reflexology and associated motor development. Section three outlines the therapy sequence.

A general outline for occupational therapy using the hand as the focus of attention will now be described.

It appears timely at this point to indicate that when using this organismic-developmental approach it might be more meaningful to refer to the various therapists primarily as cerebral palsy therapists and secondarily as physical, occupational, or speech therapists. In other words, it should be kept in mind that the cerebral palsy therapist's cardinal interest is to stimulate each child toward reaching the highest level of general reflexology that he is capable of attaining. Specific subgoals may be stressed by the different therapists on the team whenever the child reaches a level of neurophysiological readiness consistent with the emergence of certain motor tasks.

STEPS IN OCCUPATIONAL THERAPY

Reflex Inhibiting Postures. Specific occupational therapy stimulation should begin only after the child can respond adequately to two or three inhibiting postures which are conducive to eye-hand activities, e.g., child in supine-lying, in prone-lying, resting on forearms, or in sitting position reflex inhibiting postures. The ability to respond well to appropriate inhibiting postures is an extremely important first phase in therapy since it means that for these periods the child will experience near normal muscle tone and, consequently, relatively undistorted tactile and proprioceptive inflows.

The further importance of this situation is accentuated when it is remembered that when systems are dominated by lower centers, sensory inflow may undergo primitive shunting and, as a result, the child's sensory response capacity may appear lower than it really is. Distorted sensory feedback and primitive shunting therefore may

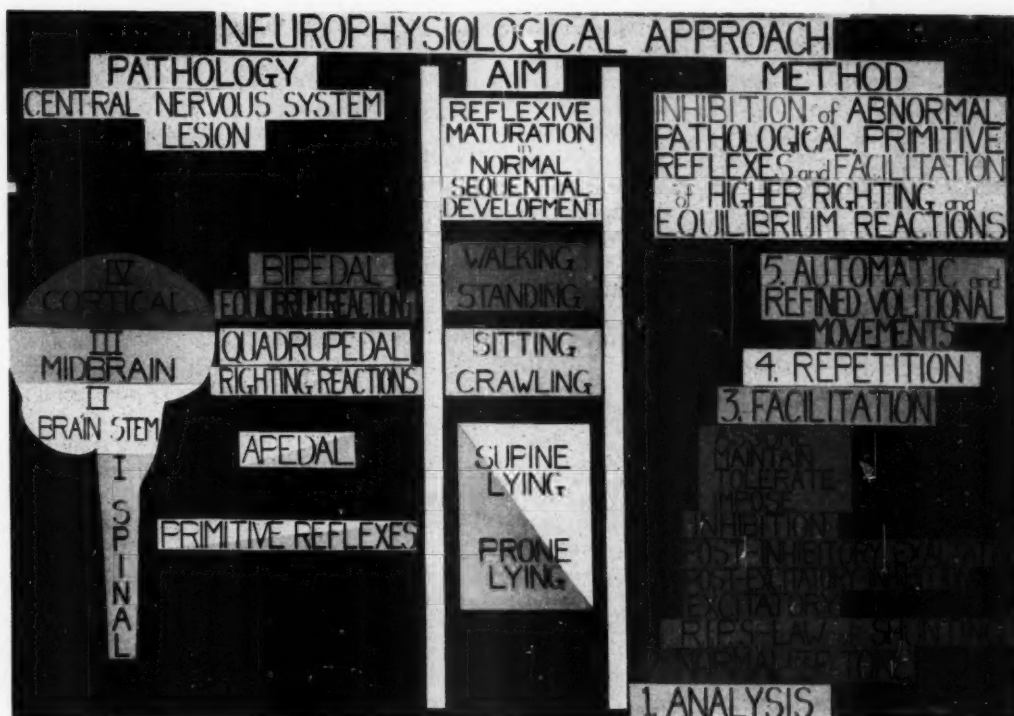


FIGURE 1

be confused with, or confound, primary sensory deficits. In addition, since it is known that motor acts are not directly learned but only their associated sensations, and since proprioceptors are essential in the guidance of movements, it becomes critical to do all that is possible to reduce the effects of secondary sensory involvements.

Desensitization. Twitchell has revealed that, depending upon the location of the lesion, different primitive hand movements may be observed. For example, the spastic hand¹² as it reaches to grasp, may show a finger extension-abduction pattern with a concomitant extension of the wrist. A similar reaction may be evoked by tactile stimulation of certain parts of the hand. This has been described as being identical to a reaction called the avoiding response.^{13,14} An exaggerated avoiding response, of course, may make it impossible, or at least difficult, for the child to grasp an object. Therefore, it may be seen that certain spastic hand problems may be associated with the release of the primitive avoiding response and the suppression of the grasp reflex.

Relative to certain athetotic hands, Twitchell¹⁵ has stated that stimulation of the dorsum of the hand may evoke an extension-abduction pat-

tern while stimulation of the medial border of the palm may elicit a flexion-adduction pattern. The athetotic hand, then, reveals the conflict between the grasp reflex and the avoiding response.

After the inhibiting postures are effective these primitive hand reactions should be desensitized. In the case of the spastic hand which reflects an exaggerated avoiding response, the goal should be to suppress this reaction and to excite the grasp reflex. This may be done by having the therapist apply substantial pressure to the palm of the child's hand with the thumb, at the same time moving this thumb in a distal direction.

Dissociation. Next, it is important to discover whether the child can indulge in eye-hand activity without triggering reflexes that may cause movements or changes in tonus in different parts of the body. In other words, the therapist should dissociate: (1) the head and dominant arm from the rest of the body, (2) the arm from the head, (3) upper arm from the forearm, (4) wrist from the forearm and, finally, (5) fingers from the wrist. For instance, it may be found that when the child ventro-flexes his head in preparation for some type of table work he stimulates neck proprioceptors which elicit the symmetrical tonic neck reflex. The effect of this reflex, in

this case, is to increase flexor tone in the arms and extensor tone in the legs, thereby making refined eye-hand activity more difficult. In order to dissociate the head and arm from the rest of the body the therapist may: (1) place the child in an adequate sitting R.I.P., (2) while maintaining a leg flexor and arm extensor pattern, passively excite neck proprioceptors by ventro and dorsiflexion of the head, (3) resist the primitive arm-leg reactions while the neck proprioceptors are so stimulated. This type of activity may eventually weaken the symmetrical tonic neck reflex and thus dissociate the head and arm from the rest of the body.

Facilitation of Basic Hand Activities. After the preceding steps have been carried out and while the child is still in an appropriate R.I.P., basic hand activities, depending on the child's level of hand maturation, (e.g., pulling, scratching, etc.) are facilitated. It should be mentioned that many basic hand activities may spontaneously emerge after the preceding steps have been experienced by the child. However, when further stimulation is needed, these fundamental hand activities may be facilitated by auditory, visual or textural stimuli. Specifically, raking activity may be evoked by exposing the hand to material like beach sand, shaking by exposure to a rattle, and so on.

Refined Hand Activity. Only after the child can assume a good sitting inhibiting posture, has had primitive hand reflexes desensitized, has had his head and arm, etc., dissociated and has had basic hand movements facilitated, should specific refined motor tasks be taught. To illustrate, if the child is to be exposed to pencil or crayon activities, the following basic hand movements, according to Table I, should have been achieved: hitting, pushing, waving, shaking, clapping, poking, pincer grasp and release activities.

For the purpose of objectifying the therapeutic possibilities of the above described approach, two case reports follow:

CASE REPORTS

C.D. is a fifteen-year-old girl who was hospitalized in 1955 at the age of eleven with a diagnosis of thrombosis, right middle cerebral artery. During this admission two subtemporal decompressions were performed. On discharge she had a residual of a left hemiparesis with more involvement in the arm than the leg and she wore a short leg brace. Physical therapy treatments were given on an out-patient basis to prevent contractures.

In December, 1959, the patient was admitted to Newington for a left triple arthrodesis, Lambrinudi type. Two weeks post-operative a modified neurophysiological approach to treatment was started and consisted of isolated techniques

for the upper extremities only. (Since this girl was in a cast and in a wheel chair, the techniques applied were limited accordingly.) Testing for primitive reflexes revealed the presence of strong asymmetrical and symmetrical tonic neck reflexes as well as associated reactions. Because of this situation no active extension of the wrist and fingers or supination was possible. There was also a severe lack of sensation throughout the left extremity. Through the application of R.I.P.'s, dissociation, desensitization and facilitation techniques, the following progress was noted over a seven month period:

1. Reduction in abnormal muscle tone was apparent and showed good carry-over from one treatment session to another.

2. Asymmetrical and symmetrical tonic neck reflexes were substantially weakened; however, the influence of these reflexes continued to reflect itself in the wrist and fingers to varying degrees.

3. Associated reactions of the left upper extremity had diminished markedly.

4. Equilibrium and protective reactions could be elicited with no primitive flexion pattern of the elbow occurring so that the patient now walked with a more normal carriage of the arm.

5. Patient could initiate supination and therapist was able to supinate passively to full range with little difficulty.

6. An interesting change in sensory capacity was observed. Following is a comparison made between the pre-therapy sensory test and the one done at the end of three months of treatment:

	12-23-59	3-10-60
A. Response to light touch and pressure	50%	80%
B. Response to temperature change.....	25%	100%
C. Stereognosis:		
Rough	50%	100%
Smooth	50%	100%
Soft	0%	50%
Hard	0%	50%
Flat	100%	100%
Round, Square	0%	25%
Big, Little, Long, Short.....	0%	0%
D. Position Sense:		
Wrist	0%	75%
Fingers	0%	0%

The second report concerns R.L., an eleven-year-old girl diagnosed as a severe athetoid quadriplegic with some spasticity in the lower extremities. When first seen in this hospital in January of 1951, at the age of three-and-a-half years, she had never crawled, stood, walked or played with toys and preferred to lie in her crib. She attempted to hold up her head at one year of age and spoke with a few monosyllables.

In September, 1951, R.L. was admitted to Newington for conventional treatment. At that time she was able to sit up without support with her legs flexed over the edge of the table but had no balance with the legs extended and

showed a minimal amount of head balance. She was given bilateral long leg cerebral palsy braces and intensive training in all three therapies. Four different admissions over an eight-year period included 1295 physical therapy and 1144 occupational therapy half-hour treatment units in balance training, gait, hand-to-eye coordination, activities of daily living and speech, plus many types of adaptations attempting to control the involuntary motion. The child's motor abilities consisted of ambulation in braces while encircled in a walker, which she had difficulty controlling because of the involuntary motion and lack of balance, ability to assist in feeding herself with the use of a stand feeder and typing with one finger on an electric typewriter with a shield.

A reflexive evaluation in February of 1959 revealed the presence of the asymmetrical and symmetrical tonic neck reflexes and tonic labyrinthine reflexes, positive Landau and minimal righting and equilibrium reactions. Under these conditions she showed no head control, crawling, standing or walking; however R.L. did have fair sitting balance on a stool but none on the mat. In addition to the reflexive anomalies, R.L. also reflected a substantial amount of involuntary motion. Treatment consisted of inhibition of tonic reflexes, reduction of fluctuating tone and the facilitation of righting and equilibrium reactions. In June of 1959 the patient was able to assume the sitting position unassisted and by November of 1959 she had progressed to the quadrupedal level showing an ability to assume the crawling position. In January of 1960 she was able to assume the kneel-standing position unassisted and by July of 1960 she was able to initiate kneel-walking and showed a substantial decrease in the fluctuating tone.

SUMMARY

The theoretical and practical significance of a neurophysiological approach to occupational therapy for the cerebral palsied was presented. The

discussion included a definition of cerebral palsy based on reflexology and a brief description of therapy techniques such as reflex inhibiting postures, desensitization, dissociation and facilitation. Two case reports were also described.

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"Sure it was intended to be a basket, but I think it makes a cute hat."

THE EFFECT OF PLANNED SOCIALIZATION ON PATIENTS *

ANN R. OLSON, O.T.R.†

LEWIS J. SHERMAN, PH.D.‡

INTRODUCTION

The chronic, regressed schizophrenic patient is becoming increasingly troublesome in mental hospitals. This type of patient, perhaps the most challenging to the occupational therapist, has difficulty verbalizing and is seldom motivated toward any activity. There may be only slight improvement in the patient's daily behavior and it is easy for those working with him to become discouraged at his lack of progress. Most attempts to change his behavior are met with resistance since withdrawal, his present method of handling problems, seems most acceptable to him. The therapist must give special attention to this withdrawn patient, although it might be easier to neglect him and turn one's efforts toward the more acutely ill patients with better prognoses.

A common characteristic of withdrawn patients is their inability to communicate with one another. It is the purpose of the therapist to provide a "natural, warm, relaxed, friendly, understanding, reasonably serious, and accepting" atmosphere to motivate these patients to participate and communicate in a relatively normal manner again.¹ It is our belief that a change in the typical occupational therapy clinic pattern would enhance the therapist's opportunities to treat this chronic mental patient.

PURPOSE

The aim of this study was to determine whether deliberate use of a "smoke break" discussion period in occupational therapy can be a significant device in facilitating socialization and work participation in the clinic. It was thought that a smoke break in the clinic period, during which the patients might sit down, relax, smoke, and be encouraged to converse with each other, could be a useful mechanism to assist occupational therapists in their treatment programs with chronic, regressed patients. The permissiveness inherent in such a program might give the patient additional freedom of thought and expression which, when properly directed, could enable him to feel a more integrated member of the group. The amount of freedom given depends, of course, upon the needs of the group and the individual patient. Although the patient often expresses himself through activities which make no interpersonal demands of him,

it was felt that a smoke break might encourage a group feeling and initiate relationships which could ultimately prove of value. This situation would, perhaps, also allow him to see himself as an individual with individual needs and feelings which have been lessened through long periods of mechanical group action and social isolation.

In this study, patients were encouraged by clinic personnel to participate at their maximum activity level. At the middle of the period, they knew they would be given a break to relax and, when possible, to discuss the projects and events of the day which they found meaningful. It was thought they would eventually devote greater energy to the activity after the break and cooperate more fully in group projects. The fact that the therapist cared enough about individual patients to sit down and talk with them, thereby reducing his appearance as an authority figure, enhanced the possibility of added cooperation.

PROCEDURE

The occupational therapy group under study consisted of fifteen to twenty male, chronic, regressed schizophrenic patients. Throughout a given day, they were regularly scheduled as a group in several different activities. Observations were conducted only during the occupational therapy section of their activities, which was a one-hour period each day.

The over-all ward group was divided into two separate but similar sections by the staff of the ward who, at that time, had no knowledge of the proposed research project. Both sections had the same therapist in the same clinic for the entire project. After the therapist had been with both sections for a month, one of the two sections was designated the experimental group and the other the control group. This distinction was made on the basis of a coin toss by the hospital research coordinator.

The experimental group was afforded a daily smoke break discussion period of approximately

*The authors gratefully acknowledge the support of Mrs. Ruth E. Morehouse, chief of occupational therapy, and the diligent observing and recording of data by Mr. Malcolm Wetherbee, psychology trainee.

†Formerly occupational therapist, Veterans Administration Hospital, Brockton, Massachusetts.

‡Chief, clinical psychology service, Veterans Administration Hospital, Brockton, Massachusetts.

ten minutes at the middle of the activity period, while the control group followed the normal schedule of a full hour's activity. Each week, every patient in both groups was observed individually for a five-minute period by an independent observer, a psychology trainee. A behavior check, which in a pre-test was shown to have acceptable inter-rater reliability, was used by the observer to record the patient's behavior. In addition, the actual amount of time the patient spent working during the five-minute sampling period was determined.

The behavior rating scale, Figure 1, contained twenty-one true or false statements which were applied to each patient. The true or false statements were designed to measure the patient's actions or inactions in occupational therapy activity and toward himself, other patients and the therapist. Since each statement has one correct answer for a chronic, regressed patient's ideal behavior, the number of times a patient behaved in accordance with this ideal gives his total score. Thus, two measures were obtained from our procedure: a total behavior rating score and a working time score. Changes in these scores over the study period provide a method of comparing the progress of the two groups.

The initial month of rating was considered a break-in period during which the observer could familiarize himself with the rating scale and with the patients, while the patients would have an opportunity to become accustomed to the observer. Observed results during this pretrial month indicated no marked variations between the experi-

mental group and the control group, suggesting that they were essentially similar at the beginning of the study.

There was considerable turnover within the groups, since patients were transferred out when it appeared they were ready for industrial assignments. Because of the above-mentioned necessity for a break-in period, the first rating of each new patient transferred into the group was not considered in the results.

The project was conducted for approximately three months after the initial period, with each group being observed on eleven occasions. At the completion of the research, a final evaluation was undertaken to determine whether clinic behavior and working time had differed significantly between the experimental, or smoke break group, and the control group.

To glean additional information from the project, results on eight core members in each of the two groups were compiled for comparison. The core groups consisted of those patients who were present throughout a majority of the ratings. In essence, these were patients who were not yet ready for industrial assignments. Comparison of the experimental and control core groups presents the most meaningful results, since the experimental core group had the greatest exposure to the test conditions and therefore received the maximum benefit of the smoke break discussion.

RESULTS

The patients' average behavior rating score and working time measured were computed for the

RATING SHEET

I. Activity			
1. Patient does what therapist tells him.....	T	NT	DA
2. Patient appears to evaluate work	T	NT	
3. Patient works slowly (in comparison to other members in group)	T	NT	DA
4. Patient works with no urging from therapist	T	NT	
5. Patient sits in chair without working	T	NT	
6. Patient closes eyes or appears to sleep	T	NT	
7. Patient paces floor. Does not walk across floor for a purpose.....	T	NT	
8. Patient is restless, i.e., shifts in chair or taps feet or taps hands.....	T	NT	
II. Behavior			
1. Patient talks to himself	T	NT	
2. Patient talks	T	NT	
3. Patient speaks in normal tone of voice ..	T	NT	DA
4. Patient exhibits outbursts of a negative nature such as crying, tantrums, screaming, laughing or smiling	T	NT	
III. Group			
1. Patient initiates conversation with patients (more than asking for cigarette)....	T	NT	
2. Patient initiates conversation with aides	T	NT	
3. Patient attends to the work of others	T	NT	
4. Patient asks other patients for help with projects	T	NT	
5. Patient offers help to others	T	NT	
IV. Attitude toward therapist			
1. Patient initiates conversation with therapist or aid.....	T	NT	
2. Patient speaks when spoken to by therapist or aid	T	NT	
3. Patient makes non-verbal response when spoken to by therapist	T	NT	
4. Patient makes no response	T	NT	

Please indicate time that patient is observed working.

Figure 1

two groups and percentage change or improvement ratios obtained. The following table lists the relative changes of the groups in the two categories.

This table indicates that the improvement of the experimental group was more favorable than the control group in both of the areas measured. The results of the two core groups are even more marked and lend strong credence to the thesis that a smoke break can be an aid to occupational therapists. The experimental core group, which had the greatest exposure to the smoke break, showed a high degree of improvement in total score and time spent working, presumably because of the effects of the break.

other patients and staff. In the discussion period no demands for performance are placed on them; they are accepted by others and the therapist regardless of behavior. It is a time for them to relax and converse, still obtaining support from the therapist as it is necessary.

What did the patients think of the smoke break? One patient said to the therapist, "You're the best person in the hospital. You're always ready to back us up." Note that the patient spoke of the group as "us" instead of "me." The therapist was just as prepared to "back up" the patients before the discussion group as after but, by sitting down to talk to the patients as a group about things that mattered most to them, the patient felt

% Improvement				
Category	Experimental Core Group	Control Core Group	Total Experimental Group	Total Control Group
Total Score	54%	8%	24%	22%
Average Time Worked	84%	-4%	44%	-8%

Table I

It is therefore felt that deliberate use of a smoke break discussion period in occupational therapy can be a significant device in increasing activity participation and improving behavior in the clinic. Many therapists are confronted with the difficult problem of treating large numbers of patients in a relatively short time. The discussion period in this experiment seemed to bring out more of the total personality of the patient.

During the regular occupational therapy period everyone would participate. Yet, the patient looked at the therapist only as an instructor because the therapist approached him with apparent interest only in the activity at hand. The therapist was working mostly with patients on an individual basis with the therapeutic effects of the craft the main concern. The required verbal responses were given, but the total personality of the patient could not be scrutinized because of the number of patients to be treated and the limited amount of time. The smoke break appeared to foster socialization, improve and increase social interaction between patients and promote a group feeling.

These patients are long-term patients who have conformed to and accepted institutional-type life. Because of the nature and length of illness their family ties are often distant or severed. They are in need of attention and love. They are accustomed to group activities and most are withdrawn from

the therapist was "for" him. The smoke break enables the patients to see the therapist as a warm, interested person, thus giving him added cooperation.

This research program was basically of an exploratory nature. The results justify further similar investigations by interested persons. With the increasing number of chronic patients inhabiting our hospitals today, it is hoped that other therapists will consider investigation and adaptation of the smoke break to their own therapy programs with the long-term patient, and that the ideas expressed herein will be found useful by the reader.

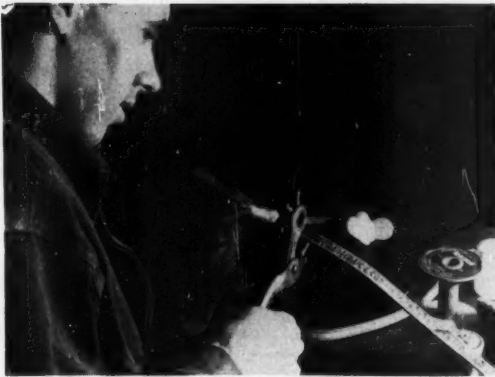
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WHEN GOING ON VACATION . . .

please leave a *hold order* at your postoffice for your magazines. This will prevent your AJOT from being returned to us. Leaving a forwarding address is not sufficient, as magazines cannot be forwarded unless postage is affixed. Every summer many copies come back; and, as we have no way of knowing whether the therapist is returning to the address or not, the subscription is placed in our "lost" file.

Picture Page



LEATHER PUNCH FOR GRASP EXERCISE

A revolving punch, its tubes replaced by leather carving or stamping tools, provides a method of obtaining resisted grasp while doing ever-popular leather work. This tool, combined with a conventional leather punch, makes it possible to obtain a great deal of resisted grasp from one leather project. Because of the relatively short distance between the stamp and the hinge of the punch, it is not possible to decorate large projects in this manner unless a border design is used. However it is convenient to decorate belts with this tool.

—Fitzsimons Army Hospital, Denver, Col.

STOCKING HOOKS

Materials

One pine dowel ($\frac{1}{2}$ in.) 36" long
Two pieces of plastic or Royalite, 4" by $\frac{1}{2}$ "
Adhesive tape
Cost: Approximately \$.20 per pair.

Construction

Cut dowel in half; flatten one side of each dowel for about two inches from end. Bend plastic pieces $1\frac{1}{2}$ in. from ends to form hooks; round off edges. With adhesive tape attach flat end of plastic piece to flat end of dowel. Bring tape down from dowel to cover hook completely; this gives hook a surface which will adhere to stocking.

Purpose and Use

These hooks are most effective for the patient who has limitations of knee or hip but whose hands are relatively unaffected. May also be used to put on trousers and underpants and to pick up certain objects.

To use (a) roll stocking down to heel and place it on hooks, (b) hold hooks firmly apart while slipping stocking over foot, (c) remove hooks and use to pull stocking up over leg.

—Montefiore Hospital, The Bronx, N. Y.



CANE HANDLE DEVICE FOR FLOOR LOOM

This device is attached to the beater of the loom at desired height for grasp and reach function. It is especially useful for hemiplegic patients in relearning these motions. A screw is used to attach the cane handle to the desired position on the beater. The device also aids in other upper extremity motions for the arm and shoulder.

—V. A. Hospital, Ann Arbor, Mich.



NATIONALLY SPEAKING

From the President

The constitution of the American Occupational Therapy Association states (article III, section 2) that "the President . . . shall have power . . . to appoint chairmen and membership of all committees, except the Nominating Committee and those otherwise provided for in this Constitution." (Executive Committee.)

This presidential power has seldom been exercised in full. The policy has usually been for the president, with such advice as he might seek, to appoint the chairman of each committee and to leave that person free to select the members of his committee. Such chairmen have frequently consulted the president or executive director as to individuals who might be able and willing to serve effectively as committee members. Such a procedure has resulted in some committees being organized as local groups able to meet easily and frequently (personnel policies) or groups which have had total geographic distribution (civil defense, legislative and civil service) and have been able to meet in numbers only at the annual conference.

The Board of Management has the power (article VII, section 1) to create such standing and special committees as it may deem advisable. Such committees may receive their charge directly from the Board of Management through the executive director or from the president through the executive director, who provides the committee with all available material for the accomplishment of its purpose.

As the Association has been expanded and has become nationwide, with the establishment of new schools and the increase in state associations, effort has been made to seek larger numbers of persons who are able and willing to serve by working on committees, thus constantly bringing new persons into action and providing geographic spread and representation. Within the past two or three years the financial status of the Association has permitted the payment of partial expenses of the members of the House of Delegates, the Board and committees, thus making it possible for more persons to participate in the work of the organization.

The continued and, of late years, extremely rapid growth of the Association has resulted in the creation of nineteen standing committees which are all groups to whom are assigned important jobs which may continue for an indefinite number of years.

At the present time nearly three hundred persons are involved in the work of the various standing or special committees.

It is quite obvious, therefore, that it would be an almost impossible task for the president to appoint members of committees as well as the chairmen and it would certainly be highly undesirable that he should attempt to do so.

Upon the ending of the term of office of a president it is customary for all chairmen to resign so that the new president may be free to appoint such persons as he may see fit. This procedure, however, brings the work of the Association almost to a halt.

It was, therefore, the recommendation of your present president that, upon the election of the current president-elect, steps should be taken to select a chairman designate, or vice-chairman, of each committee which is to continue into the coming year. These persons would be the choice of the president-elect and would agree to take over responsibility for the leadership of each specific committee when the new president assumes office at the annual meeting in Detroit. In effect, therefore, during the last year of a presidency new chairmen would be groomed to continue smoothly with the work of each committee under the new incumbent.

The standing committees all have fully-formulated standard operating procedures (SOP's) which specifically state the purposes of the committee, its structure, functions and procedures. These procedures are reviewed from time to time and may be changed on the volition of the committee involved.

The education committees, for example, consisting of the council on education, the committee on curriculum, the committee on student affiliations, the graduate study committee and the scholarship committee are relatively autonomous groups which determine their own membership in almost complete measure. The president appoints the chairman of the council on education who in turn appoints the chairman of each committee. The representatives of each group on the council are then elected by the individual members so that the control and direction of these various committees lie within their own membership. The specific structure and function of each of these large and important committees have recently been presented to you in a series of brief statements in the *Newsletter*.

It should be the responsibility of each member of our total Association to be conversant with the working organization of the various committees and to offer his or her services to the chairman of any one in which he is particularly interested. This would make easier the job of each chairman, would insure more active participation and would involve more interested persons in the work of the total organization. As more action comes from the "grass roots" our Association will increase in strength.

Helen S. Willard, O.T.R.
President

From the Education Office

It is with pleasure that the education office announces the names of those examinees who successfully completed the January 27, 1961, registration examination.

Adamek, Rita M.
Adams, Marilyn S.
Allen, Nancy J.
Allen, Suzanne C.
Ayala, Marta S.
Badon, Vivian H.
Barker, Lawrence J.
Beck, Esther D.
Beckel, Diane M.
Beeson, Jane F.
Bell, Susan S.
Berger, Carol G.
Berkowitz, Jean R.
Boozar, Amelia B.
Breder, Mette E.
Bruyn, Anne M.
Brzezicki, Julie A.
Bumbalo, Edith G.
Burrows, Nola B.
Byrne, Sally S.
Caldwell, Dorothy J.
Cohill, Ora D.
Camparini, Bice
Campbell, Carolyn K.
Capodice, Mary Lou
Cosbey, Katherine J.
Carson, Jean G.
Carsten, Karen L.
Cortright, Deanne L.
Cotter, Connie V.
Czarnowski, Mary O.
DeGeus, JoAnna
DeWolf, Leland C.
Dudley, Jill V.
Elsberry, Judith J.
Essex, Emily J.
Favilla, Juleda P.
*Fehr, Mary Jane S.
Ferguson, Sarah H.
Fogel, Margaret A.
Ford, Barbara W.
Frazier, Ruby A.
Frea, Sarah L.
Gilchrist, Patricia K.
Glantz, Coralie H.
Gordon, Tania S.

Lund, Sherry M.
McHargue, Mary A.
McKinney, Martha E.
Marshall, Sandra J.
Masters, Dorothy J.
Mayberry, John D.
Mellinger, Carol J.
Mindheim, Normandie K.
*Mitani, Norma
Mitchell, Delvin C.
Mohar, Betty Ann
Mook, Carole S.
Morgan, Verena R.
*Moss, Rosalie
Musser, Carolyn M.
Myers, Lee Ann
Newhard, Carol A.
Newton, Mary C.
Norberg, Muriel H.
Nylen, Joyce M.
Oakland, Mary M.
O'Brien, Sharon K.
O'Daniel, Penelope A.
O'Hara, Barbara B.
Orr, Karol M.
Osborne, Darlene J.
Park, Esther Y.
Pawlaczyk, Jeanne D.
Pehoski, Charlane J.
Persson, Virginia M.
Pchetteplace, Shirley A.
Pochert, Lois H.
Pounds, Cynthia A.
Reuben, Gail S.
Reyburn, Timothy V.
Richards, Glenda L.
Richman, Nancy Z.
Robertson, Elizabeth S.
Ross, Linda B.
Rourke, Jane D.
Runck, Jean E.
Sampson, Carolyn W.
Sandberg, Susanne H.
Schmidt, Mary R.
Schmucker, Charlotte P.
Schwartz, Sandra L.

Gosselink, Mary S.
Gregory, Gerald H.
Hait, Margie Lee
Hamilton, Douglas
Harrison, Jeanne A.
Hays, Carole A.
Harmon, Wenda L.
Healy, Patricia M.
Healy, Theresan
Hedman, Astrid B.
Hefferan, Barbara W.
Heidelberg, Darnell M.
Heinlein, Charlotte A.
Helm, Suzanne
Hemingway, Carol K.
Hikido, Helen T.
Hollender, Ann B.
Hynes, Patricia J.
Jedlika, Nancy L.
Jemison, Robbie L.
Johnson, Beverly J.
Johnson, Lorraine R.
Jones, Donna M.
Julin, Dorothy G.
Kalnitz, Sydel S.
Karic, Josip
Kemper, Karen E.
Kenyon, Elisabeth B.
Kepner, Kathryn F.
Kirk, Mary J.
Kochenderfer, Delores L.
Koepfel, Andree M.
Lanc, Patricia A.
Levy, Ruth D.
Lewis, Neva E.
Lietuviets, Arijia
Lilly, Marian S.
Linnard, Mary S.
Love, Donna L.
Lovejoy, Elizabeth B.

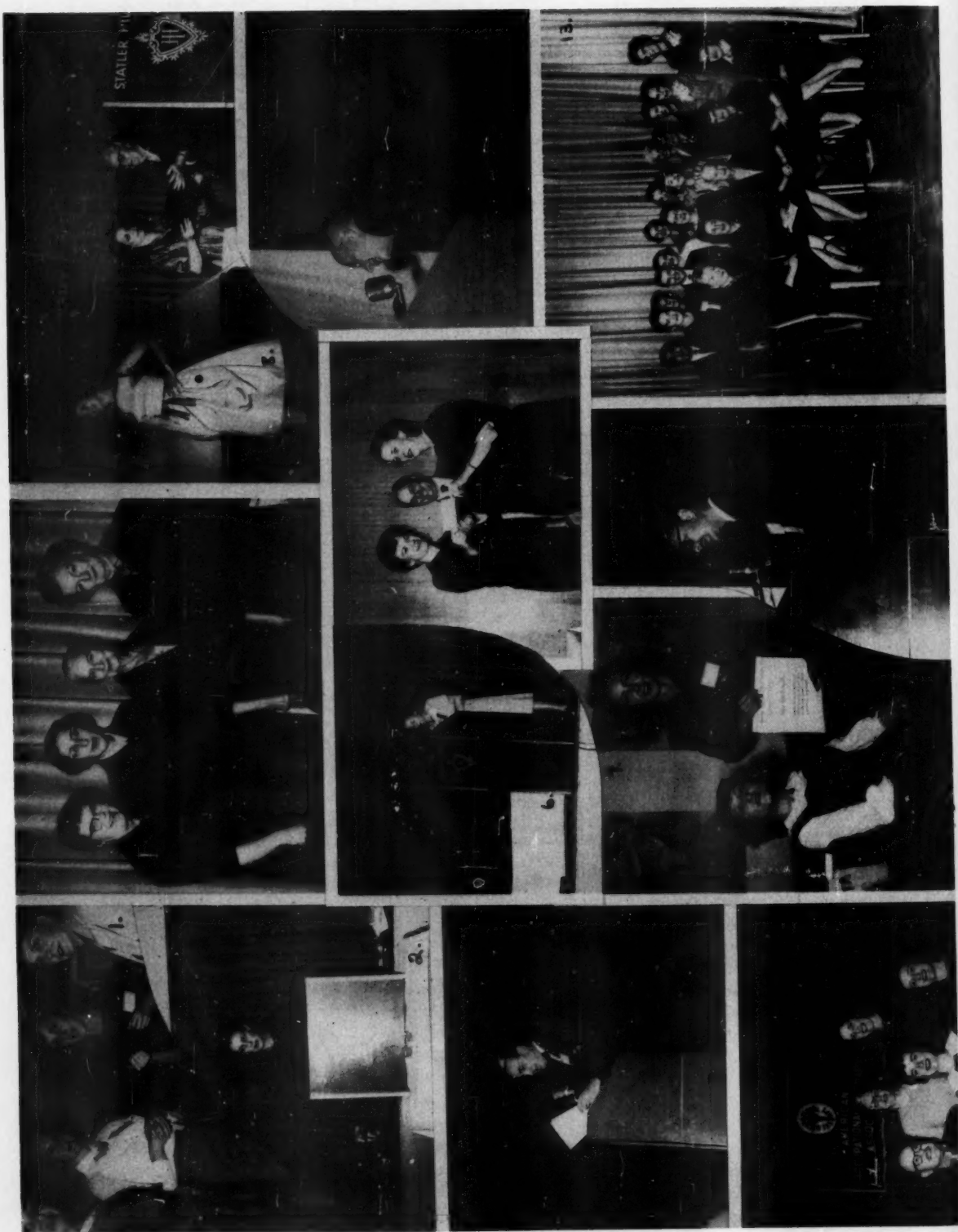
Shevin, Harriette R.
Shimizu, Patsy
Shuster, Kathleen S.
Sister Eileen Joseph Regan
Sister M. Paula Hagen
Slattery, Mary M.
Smith, Jean M.
Sprendel, Ann O.
Starnes, Ann O.
Stewart, David R.
Stucky, Sally A.
Struht, Susan A.
Sullivan, Julia D.
Terada, Marilyn M.
Terry, Nina E.
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Thomsen, Irene C.
Throckmorton, Alice J.
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Trujillo, Alicia
Turbow, Sandra R.
Ukishima, Charlotte P.
Vinson, Patricia K.
Volker, Martha A.
Walchek, Sally
Warren, Vivian W.
Webster, Sally I.
Weigl, Joan B.
Weissler, Ethel
Wesley, Jacqueline B.
Wickman, Clair D.
Wilber, Sylvia A.
Williams, Patricia L.
Wilt, Lora A.
*Wolf, Claire K.
Wright, Alma L.
*Wurm, Edith C.
Young, Beverly A.
Young, Sherry L.

*Completed with honors.

—Virginia T. Kilburn, O.T.R.
Director of Education.



"He also wanted to make a key chain with his teeth,
but I thought that was going a little too far."



WE ARE PLEASED

To announce that the 1960

AOTA CONFERENCE PROCEEDINGS PUBLICATION

will be ready for distribution in June. This publication, comprised of papers of the conference participants, will contain a wealth of valuable material relating to all fields of occupational therapy, with special emphasis on research and on material which should be of direct value to the therapist working in a clinical setting.

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1960 Conference-goers: (1) A coffee break quartet, Adelaide Smith, Barbara Brown, Bernadine Choren, Harriet Dolbeck, (2) Wilma Gurney, M.S.W., (3) Dr. Maxwell S. Jones, (4) Panelists Dwyer Dundon, Margaret Mathiott, Adelaide Smith, Miriam Doyle, Mary Van Gorden, (5) AOTA officers Margaret Gleave, Wilma West, Helen Willard, Beatrice Wade, (6) Carlotta Welles, (7) Guest of the day, Bonita Ward Michaelson, receiving certificate from Patricia Holser, (8) Schools luncheon fashion show model, (9) Virginia Kilburn receiving curriculum study grant check from National Foundation personnel, Helen Klein and Robert Wilkinson, (10) H. Dwyer Dundon, (11) Muriel E. Zimmerman receiving Eleanor Clarke Slagle Lectureship award from President Willard, (12) Dr. Horace W. Magoun, (13) AOTA Board of Management.

AJOT XV, 3, 1961



AOTA CONFERENCE F.O.B. DETROIT

Detroit is truly an exciting city. You will want to see as much of it as possible before and after the coming American Occupational Therapy Conference, November 2-10, 1961.

Detroit is proud of her new 72-acre civic center on the river front looking south to Canada. Be sure to take time to see the city-county building which houses the local government: Cobo Convention Hall; Henry and Edsel Ford Auditorium, a beautiful building made of Swedish blue pearl granite; Veterans' Memorial Building, built on an historic site of interest; and, Mariners' Church, the oldest stone church building in Detroit.

A visit to the cultural center of Detroit is also worth your time. The Detroit Institute of Arts and the Detroit Historical Museum are open daily except Monday with no admission charge. The Detroit Public Library is open daily except Sunday. The International Institute's Hall of Nations folk art exhibits are most interesting.

Wayne State University adjoins the cultural center. The medical campus with Lafayette Clinic, which is a center for research and treatment of mental illness, should not be missed.

North of Detroit is Cranbrook, nationally known for its science and art. The Art Gallery is open only on Saturday and Sunday in November. The Institute of Science is open daily with no admission charge. There is a small fee on Saturday and Sunday.

Another spot of interest for visitors to Detroit is Henry Ford Museum and Greenfield Village. There is a small admission charge.

Industrial tours through the automobile factories, newspapers, dairies and other companies of interest can easily be arranged.

Information concerning locations of the above Detroit attractions, visiting hours, and tour arrangements will be available at the convention.

NEWS FROM WFOT

The year 1960 was an active one for the World Federation of Occupational Therapists. As the council meeting was held in Australia, officers and delegates were able, en route, to visit a number of countries in which occupational therapy is developing, but where there is little or no formal training or member association. Among these were Greece, Singapore, Japan, the Philippines, Southern Vietnam, Thailand, Burma, Ceylon, Italy and Portugal. Visits were also made to Israel, India, New Zealand and South Africa. In Sydney, prior to the council meeting, there was a most interesting 3-day meeting of the Australian Association of Occupational Therapists.

In the international field a number of meetings were attended. Mrs. Owens of Great Britain and Mrs. Sturup of Denmark were observers at the general assembly of the World Health Organization. Miss Margaret B. Fulton of Scotland officially represented the World Federation at the World Federation of Mental Health Congresses, and a paper on occupational therapy was given by Miss Carol Henderson of Scotland. At the 8th World Congress of the International Society for the Rehabilitation of the Disabled (ISWC) there was a combined meeting of physical and occupational therapists sponsored by the two organizations. Miss Joy Rook of England attended the United Nations Congress on "The Prevention of Crime and the Treatment of Offenders," in London. Mrs. Abad and Mrs. Floro of Manila were observers at the Pacific regional meeting of W.H.O. and Miss Ingrid Pahlsson of Denmark, at the European regional meeting.

The member associations have been active in many planning groups and in working with allied organizations in their own countries.

Two new associations have been accepted as full members of the World Federation, the Associations of Occupational Therapists of the Netherlands and Switzerland. The Association in Greece has been accepted as an associate member.

There have been a number of developments in the field of education in the member countries. Two new schools have been started in Canada, one each in India, Sweden and Germany. The schools in Rome and Lisbon were both visited. These, as yet, do not meet the minimum standards set by the World Federation of Occupational Therapists. New schools are starting or have been started in Belgium, Argentina and Yugoslavia. There is a great need for therapists qualified to assist in starting schools and programs. It is hoped that each member country is continuing to develop a list of persons so qualified.

At the council meeting in Australia, Miss Grizel MacCaul of Great Britain and Miss Dulcie Goode of Australia were re-elected as vice-presidents, Mrs. Cardwell of Canada, as honorary secretary-treasurer, and Mrs. Owens of Great Britain, as assistant honorary secretary-treasurer.

Miss Margaret B. Fulton was elected as an honorary fellow and has accepted. The following persons were elected as advisory fellows for a five year term and have accepted:

SOUTH AFRICA, Johannesburg, Transvaal . . . Dr. K. Mills, president, S.A.A.O.T., medical superintendent, General Hospital; Mr. G. T. du Toit, F.R.C.S. (Eng.), Clarendon Centre Buildings, Park Lane, Parktown; Dr. H. Moross, medical superintendent, Tara Hospital, P. O. Box 13, Saxonwold.

AUSTRALIA . . . Dr. Claudia Burton-Bradley, medical director, the Spastic Centre, Mosman, N. S. W.; Professor F. J. Schonell, vice-chancellor, University of Queensland, St. Lucia, Brisbane, Queensland.

CANADA . . . Dr. Gustav Gingras, directeur, Ecole de Rehabilitation, Faculte de Medecine, Universite de Montreal, Montreal, Quebec.

DENMARK . . . Professor E. Thomasen, dr. med., Ortopaedisk Hospital, Aarhus.

GREAT BRITAIN . . . Professor E. Stengle, professor of psychiatry, University of Sheffield; Professor Norman M. Dott, (re-appointed), professor of surgical neurology, University of Edinburgh, Edinburgh, Scotland.

The Third International Congress will be held in Philadelphia, October 23-25, 1962. Study courses will be arranged prior to and after the Congress. It is hoped that many occupational therapists and others from allied professions will be able to attend. As some may wish to stay for further work or study experience, a special committee will be established to assist those interested in temporary employment or study. Full information in regard to this will be sent to each member association.

LETTERS

To the Editor:

I would like to add a few observations to the discussion on handedness in the Queries and Answers section of the March-April, 1961, AJOT.

It was implied ("paraplegic") but not stated that the child in question had no specific involvement of the arms. The first thing that should be determined is the presence of impairment, and especially different amounts of impairment in the two arms. If this can be ruled out, then it appears probable that the lack of handedness is the result of immaturity, as the respondent suggested.

Another factor has sometimes been observed in children with this difficulty: not only have they failed to establish a consistent pattern for use of one hand, but the need to alternate, to change constantly seems to be a strong motive in itself. This compulsive randomization, this resistance to control, concentration and application, this desire never to do anything the same way twice, is reflected not only in the lack of established handedness, but also in defects of attention and problems of learning. Many gross tasks can be performed and most self-help skills can be learned despite this lack of focus, but writing demands more control. A certain amount of neurological maturation appears necessary to overcome this defect; however, the therapist need not stand by helplessly until this ensues, but can help the child curb his restlessness. This is done by teaching fine skills, such as writing, as well as all new tasks, with the same hand. Restraint should not be used and the approach should be positive: "This is the way we do it."—the only way—with praise for a correct response. When the child attempts to switch to the other hand she should be asked to rest, and then continue the task with the same hand. In fact, very short periods of concentration, alternating with periods of rest or gross activity will be required. It is essential that during the periods of concentration the task be done correctly and that it be stopped as soon as the false pattern appears. It has been noted that once the motor pattern—that is, handedness—has been established, skill improves markedly, providing motivation for continued effort.

In determining which of the hands to select for concentrated training, family history is too remote and preference testing of no value, since no preference exists.

Skill tests might be helpful, but since they encourage alternating, they should be used only if there is a question of different arm involvement. In the case cited it appears that a right-handed orientation already exists, since the motor patterns for writing are clearly of the right hand, the same muscles being used on the left to produce reversals. There seems to be no choice but to train the right hand for this task.

It will be noted that I disagree with the respondent in advocating habit of use to establish handedness. I have come to believe, after studying the works of several writers on the subject^{1,2,3,4,5} and as the result of my own experience, that handedness is expressed in terms of habitual motor patterns; that is, that a person through habitual use, self-training and practice *develops* superior abilities in one hand, the hand that is governed by the cerebral hemisphere with the greater capacity for receiving and integrating such patterns. I also feel that the concept may become less formidable and more easily understood if we use terms that imply only what really appears to exist: "laterality" and the "major" and "minor" hand, avoiding the word "dominance" when possible. J. M. Nielsen⁶ first proposed this terminology; I have found that even people unfamiliar with it have understood it immediately and accepted it readily as a more adequate substitute.

In closing I would like to suggest that some way be found to make available an unpublished thesis that apparently contains information of value to therapists, such as the second reference cited by Miss Ayres.

Sincerely yours,
Antje Price, O.T.R.

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2. Eustis, R. S. "Right or Left-Handedness," *New England Journal of Medicine*, Vol. 240, 1949, pp. 249-53.
3. Gesell, A., et al. *The First Five Years of Life*. New York: Harper Bros., 1940.
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5. Nielsen, J. M. *Agnosia, Apraxia and Aphasia*. New York: Hoebner, 1948.

Miss Mayberry's thesis, *Laterality Functions and Their Implications for Occupational Therapy* is being reviewed for possible publication in AJOT.—Ed.



1961 AOTA Conference

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AJOT XV, 3, 1961

In Memoriam

Miss Jennie K. Allen
Chicago, Illinois
Deceased, April, 1961

Mrs. Lorraine P. Bradbury
Chicago, Illinois
Deceased, 1960

Mrs. Helen Denson
Houston, Texas
Deceased, January, 1961

Miss Edna Faeser
Indianapolis, Indiana
Deceased, April, 1961

Miss Muriel K. Hopkins
Holland, Michigan
Deceased, 1958

Mrs. Anna A. Hussey
Cromwell, Connecticut
Deceased, 1960

Miss Aida M. Lund
Grand Rapids, Michigan
Deceased, November, 1960

Miss Elizabeth Messick
Richmond, Virginia
Deceased, December, 1960

Miss Anna F. Moore
Lansdowne, Pennsylvania
Deceased, November, 1960

Miss Edith Rice
Newark, Ohio
Deceased, 1959

Miss Sarah Schulman
Los Angeles, California
Deceased, April, 1961

Mrs. Agnes Story Simpson
Rockport, Massachusetts
Deceased, March, 1961

Mrs. Mary S. Sjoberg
Anaheim, California
Deceased, November, 1960

Mrs. Lula G. Stewart
Tacoma, Washington
Deceased, November, 1957

Capt. Jean E. Styles, AMSC
Wayne, New Jersey
Deceased, April, 1961

Mrs. Isabel C. Tiemann
Cavendish, Vermont
Deceased, 1960

Mrs. Phoebe S. Wylie
West Chester, Pennsylvania
Deceased, April, 1960

Body Scheme . . .

(Continued from Page 102)

Figure 3, produced two days after Figure 2, the head clearly has features quite well placed, the trunk is evident and arms and fingers have appeared in approximately the correct location. At the time Figure 3 was drawn, H. could identify single fingers when touched but had some trouble identifying two fingers touched simultaneously. She could obey crossed commands (such as putting left hand on right shoulder) with about seventy-five percent accuracy. She was still unable to tell what anatomical parts were above or below other parts. She seldom fell, did not complain of knee pain, and was able to direct her arms with much greater skill. In general, her growth in perceptual-motor performance appeared to be accurately reflected in the growth made in her self-drawings.

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2. Bender, Lauretta. *Psychopathology of Children With Organic Brain Disorders*. Springfield, Ill.: Charles C. Thomas, 1956.
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4. Reznikoff, Marvin, and Donald Tomblen. "The Use of Human Figure Drawings in the Diagnosis of Organic Pathology," *Journal of Consulting Psychology*, 20:467-470, 1956.

Schizophrenic Patients . . .

(Continued from Page 105)

values of the relationship involved between the therapist and the patients. The psychiatric patient is often able to relate to the occupational therapist more comfortably because of the interposition of a task or problem, and is able to avoid or modify his personal needs and tolerances in the interpersonal relationship. Thus, he can become as close or remain as distant as his personal comfort demands.

The improvement in a group of chronic schizophrenic patients suggested by this study demonstrates an early and rapid change resulting from the intensive occupational therapy. The study further suggests that these patients can show improvement through a method of treatment not involving intensive psychotherapy. The changes observed in the rating scales suggest that the improvement was more than superficial. Although it

would be premature to suppose that these could be related to eventual discharge from the hospital, they do suggest that this type of program could be important in preparing patients for individual or group psychotherapy. A further study is indicated to demonstrate the long term value of this approach. The authors feel that occupational and rehabilitation therapists can, with psychiatric supervision, give important assistance and treatment to the chronic schizophrenic patient.

SUMMARY

Significant changes in the behavior of a group of 20 chronic schizophrenic patients were obtained as a result of a four-week period of intensive occupational therapy. These changes were significant as compared with a group of 20 chronic schizophrenic patients who served as a control group. The changes obtained suggest an improvement in the ability to relate to others and to meet reality. The study suggests need for improved assessment techniques and need to further evaluate rehabilitation programs for the psychiatrically ill.

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DELEGATES DIVISION

FLORIDA

Delegate-Reporter, Miriam E. Thralls, O.T.R.

Greater cooperation and learning from one another exemplify the past year for the Florida Occupational Therapy Association.

As our organization has grown both in function and in size we have become increasingly aware of the potentialities and of the enthusiasm of many of our members. Programs for our state meetings have been enthusiastically received, due in large part to several of the members having delivered papers concerning research and concepts which they have developed.

"The Changing Role of Occupational Therapy in a Psychiatric Hospital" by Mrs. Arlene Krul proved most informative and stimulating, as did the lecture by Miss Genevieve Jonas on "The Emotional Aspects of Illness." Another Florida Association member, Mrs. Marjorie Herring, explained and demonstrated her project, "The Theory and Application of Some Types of Proprioceptive Facilitation to Occupational Therapy."

We have also looked to individuals outside our organization for various topics such as the fabrication of special devices and important developments in the detection and prevention of mental retardation.

Versatile programming and enthusiastic, active, business meetings have promoted greater interest and participation of the membership. Although our state is over 600 miles long and up to 400 miles wide, we are proud of our consistently high attendance at our three state meetings.

We are pleased, also, to note that although we have always had a membership category for students, this is the first year this classification has been active. Junior and senior occupational therapy students at the University of Florida have become an important element of our membership. They have demonstrated an understanding and appreciation of the responsibilities and functions of their state professional organization.

With the fine leadership of our president, Mrs. Florence Walters, and the cooperation of the members of the Florida Occupational Therapy Association, we feel we are growing in spirit and in purpose.

OFFICERS

President	Florence Walters, O.T.R.
Vice-President	Alice Jantzen, O.T.R.
Secretary	Grace Straw, O.T.R.
Treasurer	Avis Holland, O.T.R.
Delegate	Miriam Thralls, O.T.R.
Alternate Delegate	Mary Harvard, O.T.R.

NEW YORK

Delegate-Reporter, Cecilia Sattely, O.T.R.

During our second year as the New York State Occupational Therapy Association, the five districts have concentrated on their improvement as a professional unit. Following are the newly elected chairmen:

- Central New York: M. Jeane Allison, O.T.R.
- Long Island: Elsie McKiernan, O.T.R.
- Metropolitan New York: Virginia King, O.T.R.
- Niagara Frontier: Diana Pierce, O.T.R.
- Rochester: Irene Schreck, O.T.R.

At the annual meeting in May, 1960, the executive board approved the establishment of a sixth district, the Hudson-Taconic District. In accordance with procedure, representatives of this group have been instructed to submit their by-laws to the executive board.

The Long Island District was host to the second annual meeting held in May, 1960, on the topic "The Sheltered Workshop." Field trips, exhibits and panel discussions were planned for a group of ninety registrants.

Our association now has a total membership of 283, including 161 active members, 27 active-sustaining, 15 auxiliary, 75 associate, and 5 honorary members. Active committees are hard at work on both the district and state levels.

Probably the greatest achievement, the product of years of work by an active committee, was the achievement of an incorporate status. We are now the New York State Occupational Therapy Association, Inc. As another sign of growth and of defining responsibility, an outline of standard operating procedures for officers and committee chairmen has been completed, in order to facilitate the smooth operation of a fast-growing association with members spread out over the entire state of New York.

The recruitment and publicity committees have been quite active, with notable participation in career days and meetings with high school counselors. The Rochester District has constructed a lightweight, three-paneled exhibit depicting the rehabilitation of children, adults, and the aged, which is available for loan. The Metropolitan New York District participated in the Health Careers Project at the New York Coliseum. The Central New York District has purchased a copy of the film *O.T. Story*.

We have also been active in the scholarship field. The Rochester District has obtained a scholarship for a student accepted at the University of Buffalo; the Niagara Frontier District has raised \$175 for scholarship aid; the Metropolitan New York District has awarded four \$500 scholarships.

OFFICERS

President	Ruth L. Smiley, O.T.R.
President-Elect	Elsie McKiernan, O.T.R.
Vice-President	Martha Schnebly, O.T.R.
Secretary	Mary Leete, O.T.R.
Treasurer	Ruth Nightingale, O.T.R.
Delegate	Cecilia Sattely, O.T.R.
Alternate Delegate	Jane Fogelsonger, O.T.R.

TENNESSEE

Delegate-Reporter, Barbara Wallin, O.T.R.

The Tennessee Occupational Therapy Association continues to function at as high a level as is possible with our continuing decrease in membership. Memphis is now the only city in the state with more than one registered practicing therapist. Others are scattered in cities throughout the state. During the past year we lost four members, including our vice-president and treasurer.

Communications and recruitment remain the two major problems in Tennessee. Due to the distance between members state business meetings are held only twice each year.

Individual members keep busy with their own efforts toward recruitment and publicity. One of our most active members has been Anna Loftus, O.T.R., of the Nashville Veteran's Administration Hospital. In September she spoke at a training institute for the Home Teachers of the Blind, and in May she is to present a

paper at the biannual conference (midwestern states) of Home Teachers for the Blind in Mobile, Alabama. She is also active in helping to publicize the scholarships available from the National Foundation.

Barbara Wallin, O.T.R. at Eastern State Hospital, has also spoken to several groups of public health nurses, practical nurses, and at a workshop for nursing home aides. In September, for the seventh year, she displayed an occupational therapy exhibit at the Tennessee Valley Agricultural and Industrial Fair in Knoxville.

Several of the members have spoken at high school career days in different parts of the state. We have three prospective occupational therapy students starting college in the fall.

Our scholarship fund continues to grow with the proceeds from the sale of gummed personalized name tags.

OFFICERS

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VIRGINIA

Delegate-Reporter, Donald E. Hines, O.T.R.

This year the recruitment program in Virginia has been substantially increased both in quality and coverage through our membership on the health careers recruitment committee of the Virginia Council on Health and Medical Care. Through its mailing program, schools and organizations within the state have received information regarding health careers available to Virginia students. The mailing included recruitment materials prepared by the council, a listing of films, and any other materials the member organization wished to have included. We continue to receive an increasing number of requests for information from areas contacted. Our copy of *The Occupational Therapy Story* has been "booked solid" for months. We feel the recruitment picture in Virginia is coming into sharper focus since contacts have been established and are now being maintained. Future plans include a two-stage mailing by the Virginia Occupational Therapy Association and completion of a travel display.

In memory of H. Elizabeth Messick the Virginia Occupational Therapy Association has established *The H. Elizabeth Messick Award* to be presented each year at the honors convocation to the most outstanding occupational therapy student graduating from Richmond Professional Institute. The recipient's name is also to be inscribed on a plaque hung in the occupational therapy library, which has been established with the donation of Miss Messick's books by her family and contributions of friends.

Meetings of interest centered around "The Technique of Neuromuscular Facilitation," "Problems of the Patient with Spinal Cord Injury," "The Role of the Occupational Therapist in Disaster Situations" and "Physiological, Neurological and Psychological Aspects of Aging."

OFFICERS

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REVIEWS

WHY ARE RESEARCH GRANT APPLICATIONS DISAPPROVED? Ernet M. Allen, *Science*, 132:3439 (November 25) 1960.

Material gained from this article provides enlightenment in an area which currently needs clarification. The author offers extensive information regarding grant appeals to the National Institutes of Health, with special emphasis on characteristic shortcomings of rejected applications. He states that in the twelve months that ended June 30, 1959, the National Institutes of Health received and acted upon nearly 6000 competitive applications for grant of funds to initiate or continue projects in medical and related biological research in the many research institutions of the country.

Of this number, approximately 2000 met with disapproval at the hands of the 30-odd advisory boards of scientists that give the applications technical review. These boards, known as study sections, are made up of distinguished scientists, active in research, who are connected with universities and other research institutions throughout the country.

The shortcomings pointed out by the study sections are listed and tabulated using percentage ratings. The criticisms that occurred in the discussions summarized in the study-section minutes were voiced primarily in an effort to arrive at a balanced judgment of the merits of each research proposal, not to aid investigators in perfecting their conception or description of research proposals. It is believed, nevertheless, that the total list of twenty-six adverse characteristics—the "symptomatology" for disapproved research projects—could well be used as a check list for criticism of grant applications by the investigator himself prior to their submission, no matter to what granting agency.

CHILD CARE EQUIPMENT FOR PHYSICALLY HANDICAPPED MOTHERS. Neva R. Waggoner and Garland W. Reedy. Bulletin of the School of Home Economics, University of Connecticut, 36 pp.

A disabled mother of small children will find this new booklet to be of considerable value as she attempts to gain added skills in the practical matters of everyday child care. Topics included are: (1) The Handicapped Mother and Her Baby, (2) The Baby's Bed, (3) The Baby's Bath, (4) Play Pens and Playthings, (5) Feeding the Baby, (6) Toileting the Child, (7) Dressing the Child, (8) Work Centers for Child Care.

The material presented is well illustrated. Suggested physical home arrangements are adaptable to most any home, without great expense. Helpful reference material is included.

PLAY EXPERIENCES HANDICAPPED MOTHERS MAY SHARE WITH YOUNG CHILDREN. Jessie S. Wall. Bulletin of the School of Home Economics, University of Connecticut, 32 pp.

This is a unique booklet which should be of considerable value to the disabled mother of pre-school and elementary-age children. It is a well-illustrated publication which includes practical suggestions in such areas as: developing cooperative behavior; outdoor play supervised from the indoors; active indoor play; bringing the outdoors indoors; sharing musical experiences; children and art materials and creative experience through story-telling.

Once again the School of Home Economics of the University of Connecticut has come through with a valuable contribution to the serious matter of "learning to live with a disability."

EXERCISE IN A WEIGHTLESS ENVIRONMENT.

Pauline Potts, Captain, USAF, MSPC, and J. I. Bowring, Wing Commander, M.B.E., RAF. *The Physical Therapy Review*, Volume 40, Number 8 (August) 1960.

Normally, a person exercises against gravity, with gravity assisting, or with gravity neutralized insofar as is possible. Our entrance into the space age stimulates a study of the problems involved in living when no force of gravity exists. Research on this weightless environment is being performed at the Wright Air Development Center, Wright Patterson Air Force Base, Dayton, Ohio.

Crews entering a weightless environment must be in a restrained sitting position for long periods of time. An experimental chair has been tested which considers proper positioning of the body and the best type of restraints to simulate the feeling of the gravitational pull of the earth. Methods of eating, possible diversional activities and methods of exercising are also being devised for use in a limited space and in a weightless environment.

The research here presented, points the way to further research by suggesting questions to be answered and problems to be solved in this new field of research.

—Maryelle Dodds, Major, AMSC, M.A.

HOME EVALUATION PROCEDURE. Beth H. Fowles, B.S., Helen Stewart, M.A., and Susan P. Mahan, B.B.A. *The Physical Therapy Review*, Volume 40, Number 10 (October) 1960.

These suggestions for a home planning service for handicapped patients who are returning to their home environment are the result of a program which the physical medicine and rehabilitation department of Highland View Hospital has been carrying out for the past seven years.

A therapist or a team of staff members from the hospital assist the patient and his family in preparing both the patient and his home surrounding for his anticipated return. Suggestions are given in the paper for possible adaptations in the approach to the house and in home planning. Specific suggestions are made for the bedroom, bathroom, living room, kitchen and laundry area.

A home evaluation letter with the recommendations of the team is sent to the family, the doctor, the Visiting Nurse Association and to any other concerned agencies. This letter contains as detailed a description as is necessary of the methods recommended in assisting the patient. It may include information on procurement or construction of equipment, recommended changes in floor plans, necessary safety measures and the home care program.

—Maryelle Dodds, Major, AMSC, M.A.

HANDCRAFTS SIMPLIFIED. Martha Ruth Amon and Ruth Rawson. Bloomington, Ill.: McKnight & McKnight, 210 pp., \$4.40, 1961.

This book brings together material on all of the major crafts. Although written so that the novice can experience immediate success, this book is also an excellent guide for the teacher and the seasoned craftsman. 368 illustrations show exactly how to proceed, and easy-to-understand instruction tells how to go about it step by step. Material on the proper use of tools and application of each medium is completely up to date. A convenient list of "sources of supplies" is offered in the back of the book. This new book offers information on: applique; batik; block printing; ceramics; enameling on metal; hooked rugs; jewelry; leatherwork; papier mache; quilting and trapunto; stenciling on cloth; paper, wood or metal; stitchery; tie-dyeing; weaving; decorating woodenware; reed and raffia.

CONGENITAL DEFORMITIES. Gavin C. Gordon, M.B., F.R.C.S.E. Baltimore: The Williams & Wilkins Company, 1961, 128 pp., \$8.50.

The author explores the factors that might cause congenital malformations such as mechanical pressure, genetics and environmental influences. His purpose is to put together factual information pertaining to genetics, embryology, physiology, neurology, biology and pathology in order to build a better foundation for future research.

Congenital dislocation of the hip is the main deformity studied, but the author shows where overlap occurs and where the same principles and conclusions can sometimes be applied to more than one condition. Similar inquiry is made into bone growth and repair, and cerebral palsy.

The first section of the book, including Appendix A, which gives various treatment media, is well illustrated with x-rays, drawings and photographs. Case histories are used to identify the series of x-rays. Appendix B includes the author's theory of the nature of spasticity and mental processes.

—Eunice Ford, O.T.R.

POPULAR DOMINO GAMES. Dominic C. Armanino. New York: David McKay Company, 1961, \$1.95, 56 pp.

A compact, handy book of popular games of domino written by the author of *Dominoes*. Included are the official rules for playing dominoes using one to six players.

KRANZ MANUAL OF KINESIOLOGY. Fourth Edition, newly revised. Clem W. Thompson. St Louis: C. V. Mosby Co., 1961, \$3.75, 159 pp.

This is excellent for the study of muscle function. The information is clear and concisely given. The drawings of the skeletal muscular system in action are particularly good, especially in the use of the upper extremity at the shoulder girdle.

Intrinsic motions of the hand are less satisfactorily presented. It is regrettable that this section was not made inclusive in the revision, as occupational therapists have a need for more graphic material in the finer functions of the hand.

The dynamic drawings related to the functions of the lower extremities have retained the best of the old and added additional material. The author has achieved a sense of kinetic force in this presentation rare in a manual of this type.

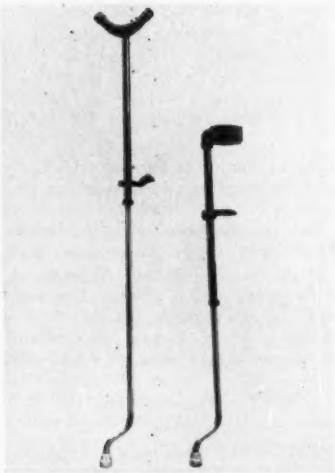
—Henrietta McNary, O.T.R.

DIRECTORY OF CAMPS FOR THE HANDICAPPED (revised edition). A publication of the National Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago 12, Illinois, 1961, \$.50.

Crippled children and adults will have more fun camping this summer. More than 50 new resident camps and a substantial increase in the number of day camp programs are revealed in the revised edition of *Directory of Camps for the Handicapped*, just published by the National Society for Crippled Children and Adults, the Easter Seal Society.

Prepared by the National Society under joint sponsorship of the American Academy of Pediatrics and the American Camping Association, the directory supplies up-to-date information of approved camping programs and facilities from which parents of handicapped children, professional workers and crippled persons can select programs. Some 250 resident camps and more than 100 day camp programs are listed.

Have You Tried?



The new **WALKING CRUTCH**, with a revolutionary offset bend in the upright, has been developed to make walking easier, less fatiguing and safer. A product of the **Glide-Eez Manufacturing Company**, Lowell, Michigan, it was invented, tested and manufactured by handicapped people who use crutches. This new crutch sells for less than \$30 per pair and is available in either underarm or elbow types.

The Walking Crutch differs from conventional models in three distinct areas: the offset bend; contour-shaped hand-pieces and under-arm rests; and complete adjustability.

The unique offset bend in the upright is approximately six inches from the bottom. This places the user's center of gravity forward of his pivot

point and provides a gentle forward thrust to assist him in walking. Users of conventional crutches find that they must pull their weight ahead with each step, but due to this patented design, the **Glide-Eez Crutch** gently pushes the user ahead in a gliding motion. This enables users to walk much greater distances with less fatigue.

The **Glide-Eez Crutch** is made from lightweight high-tempered aluminum alloy and is guaranteed against defects for six months from purchase. It will be available in a variety of colors from bright metallic silver, pink gold, pale green to special colors upon request.

For further information write: **Glide-Eez Manufacturing Company**, Lowell, Michigan.

* * *

Have you tried the new reedcraft projects imported from Sweden by the **S & S Arts & Crafts**. Small candle holder for 20c, large cake dish with mahogany center for 50c, many, many others. Each individually packaged with illustrated instructions. **S & S Arts & Crafts**, Colchester, Conn.

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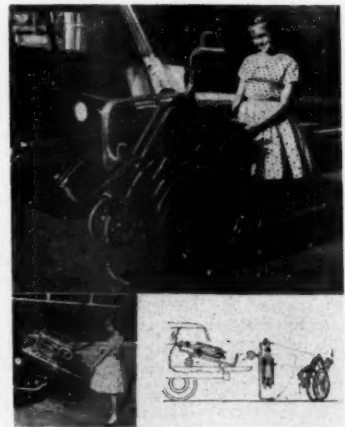
Wielding a paint brush is a skilled technique that sometimes frightens patients away from developing their full potential as designers. Now **TRI-CHEM, INC.**, 82 Main Street, West Orange, New Jersey, has a full range of exotic colors in ball point decorating tubes. There is no mixing of paints, and no need for a brush. Paint with the colors directly from the tube on all fabrics from the sheerest nylon to burlaps and pile, wood and metal, glass, china or pottery, and plastics.

Clever posters can be made on paper, cellophane or metal foil, so both you and your patients can find the paints useful. Write the company for their well designed descriptive folder entitled "Tube Painting."

The **WHEEL CHAIR LOADER** is a new device that enables the person caring for wheel chair patients an easy way to load or unload a wheel chair . . . takes only a few seconds.

The loader is designed to make full use of leverage and balance. A person can load or unload the chair, never lifting more than 1/3 the weight. Since most wheel chairs weigh 40 lbs. or more this loader offers considerable advantage. So little effort is required that a child can operate it.

The **Winco Wheel Chair Loader** No. SW-2 is designed for station wagons. Other models for standard makes of sedans are available. Patent pending. Manufactured by **Winfield Company, Inc.**, 1301 3rd Street South, St. Petersburg 1, Fla.



Yarns for hand knitting, hand weaving and rugs. All wool worsted and nylon and wool blends. Send for sample cards.

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POSITIONS AVAILABLE

Staff position for registered occupational therapist or eligible graduate, rehabilitation dept. of large, modern tuberculosis hospital. Pleasant suburban location with good transportation, shopping and recreational facilities. 40 hour week, paid vacation and holidays, liberal cumulative sick leave, retirement plan. Full maintenance available at reasonable rate. Opportunities for further education in local universities. Write: Director of Rehabilitation, Sunny Acres Hospital, Cleveland 22, Ohio.

OCCUPATIONAL THERAPISTS for California's progressive programs in state mental hospitals and for physically handicapped children in special schools. Opportunities for imaginative and resourceful therapeutic activities. Eligibility for registration with the national registry of the American Occupational Therapy Association is required. No experience is needed to start at \$436 a month. Positions in schools under the Crippled Children Services program are open also to experienced occupational therapists at \$481 a month. Attractive employee benefits. Secure details from State Personnel Board, 801 Capitol Avenue, Sacramento 14, California.

Position open for registered occupational therapist in a modern, recently expanded 200 bed general hospital located in a progressive midwestern community. Recently established department now serving eleven bed psychiatric unit. Occupational therapy program to be expanded to include general, medical and surgical patients. Salary open, commensurate with training and experience. Consultation and referrals available from local new rehabilitation center. Apply Elkhart General Hospital, Elkhart, Indiana.

Applications continually accepted for staff therapists in rehabilitation hospital treating children and adults. Addition completed recently includes complete new OT department. Current staff of five is being gradually increased to meet greater in and out patient capacity. Progressive personnel policies. Salary commensurate with experience and training. Location ideal for cultural interests and all sports. Further information and attractive brochure furnished on request. Apply to Administrator, Sunnyview Orthopaedic and Rehabilitation Center, Inc., 124 Rosa Road, Schenectady 8, New York.

Registered occupational therapists: Positions available in large AMA accredited state mental hospital for sr. occupational therapists. Salary range: \$4750-6178, annual increment, \$238; or staff occupational therapist \$4309-\$5599, \$215. Well OT oriented administration, OT clinical training program projected. Must be college graduate and registered or eligible for registration. Forty-hour week, paid vacation, holidays and sick leave. Low cost maintenance available. If interested, please contact John E. Ellingham, Personnel Director, Ancora State Hospital, Hammononton, N. J.

Help wanted female: OTR to head department in large private psychiatric hospital, 35 miles from New York City. Attractive salary. 5 day week. 4 weeks vacation. 7 holidays. Many fringe benefits. Write Box 15, American Journal of Occupational Therapy, 3514 N. Oakland Ave., Milwaukee 11, Wis.

Director—expanding occupational therapy department. Children and adults. Supervision of OT staff and students. Carry out development program. Full information on request. Write: Director, Crotched Mountain Rehabilitation Center, Greenfield, New Hampshire.

Challenging opportunity for occupational therapist. This is a modern, progressive 370 bed general hospital with new comprehensive rehab. division. Must be able to set up department and must be familiar with pre-vocational evaluation. Salary up to \$7,500 per annum. The Methodist Hospital of Gary, Indiana.

Occupational therapist wanted. Amarillo Cerebral Palsy Treatment Center. Five day week, three weeks paid vacation, one week at Christmas, plus six other holidays. Hospitalization and life insurance benefits. Beginning salary around \$4,600, but is open. Please contact Vincent J. Privitera, R.P.T., Director, Cerebral Palsy Center, 808 Crockett, Amarillo, Texas.

Opening for occupational therapist—full time—accredited private psychiatric hospital—70 bed. Located in Westport, Connecticut. (One hour from New York by train or car.) Write or call Hall-Brooke Hospital, Box 31, Greens Farms, Westport, Conn.

Occupational therapist, psychiatric setting supervisory and staff. Eligibility for registration with American Occupational Therapy Association required. A progressive program pioneering new concepts of rehabilitation. Opportunities for imaginative and resourceful therapeutic activities. Salary commensurate with experience and training. Write Personnel Manager, Springfield State Hospital, Sykesville, Maryland.

Wanted: registered occupational therapist. Begin and develop new program in 455 bed general hospital adjacent to college campus. Fringe benefits: vacation, sick pay, health insurance, retirement plan, social security and annual physical. Salary open. Apply: Personnel Office, Ball Memorial Hospital, Muncie, Indiana.

Immediate opening for registered therapist on our occupational therapy staff. We are a fully accredited 250 bed private psychiatric teaching hospital, located 8 miles north of Baltimore, Maryland. Pleasant working conditions. Apply to Mrs. Phoebe Penniman, Director of OT, The Sheppard and Enoch Pratt Hospital, Towson 4, Maryland.

Registered occupational therapist with experience & interest in psychiatry. Beginning salary \$385—with experience higher. Complete benefit program. For information write: Personnel Section, Mayo Clinic, Rochester, Minnesota.

Occupational therapists for 3000 bed psychiatric hospital—beautiful Puget Sound area. Newly organized program, new building and latest equipment. Salary range \$4368-\$5652, plus paid holidays, vacations, retirement plan, social security and group health insurance. Maintenance available at reasonable cost. Contact Personnel Officer, Western State Hospital, Fort Steilacoom, Wash.

Opening for staff occupational therapist, registered or eligible for immediate registration. Treatment to consist of physically handicapped, emotionally upset, and the evaluation of new patients in an institution for mentally retarded. Institution in same town as University of Florida. Beaches within 100 mile radius. For further information write to Mrs. J. S. Brown, O.T.R., Director of Occupational Therapy Department, Sunland Training Center, Gainesville, Florida.

Immediate opening for occupational therapist in new outpatient treatment center. Possibility for initiative in organizing and developing OT program. Center located in Georgetown. Contact Richard R. Leclair, Executive Director, Delaware Society for Crippled Children and Adults, Inc., 1324 Market Street, Wilmington 1, Delaware.

Immediate openings for one occupational therapy supervisor and two staff occupational therapists for adult and children's units, and one female staff therapist for adult and adolescent recreation services of progressive psychiatric center associated with University of Michigan Medical School. Four units of intensive treatment of children, adolescents and adults with occupational therapy supervisor on each unit. Student affiliation center. Generous personnel benefits; salary commensurate with experience. Address communications to Personnel Department, University of Michigan Medical Center, Ann Arbor, Michigan.

Wanted: to start May 1. Staff OTR with 1 year experience in physical disabilities to work in large general hospital. Paid vacation, sick leave, salary open. Apply Head of Personnel, St. Luke's Hospital, 11311 Shaker Boulevard, Cleveland 4, Ohio.

Wanted occupational therapist with experience and or training in a work evaluation or diagnostic clinic for handicapped and to perform occupational therapy assignments. Male or female. Age open. Contact Mr. Benjamin J. Pumo, Director of Rehabilitation Services, Toledo Goodwill Industries, 601 Cherry Street, Toledo 4, Ohio.

Occupational therapist registered. Geriatrics and medical services. Start \$4710. Annual merit increases to \$5290. Liberal personnel policies. Apply Personnel, Grasslands Hospital, Valhalla, N. Y. LYric 2-8500 Ext. 61.

Position available for OTR in a children's convalescent hospital. Functional program for children with orthopedic handicaps including cerebral palsy, congenital deformities, and traumatic injuries; plus a functional and supportive program with ambulatory patients. Some experience with emotionally disturbed children desirable but not required. Salary range \$4,200 to \$5,400 depending upon qualifications and experience. Excellent personnel policies. If interested, contact Daniel A. Pettengill, Administrator, Convalescent Hospital for Children, Cincinnati 19, Ohio.

Immediate opening for OTR to direct an OT dept. in a 220 bed GM&S hospital and home for the aged in a midwestern community. Salary open—5 day week. Paid vacation, sick leave, legal holidays, Blue Cross-Blue Shield insurance. Reply to Box 25, American Journal of Occupational Therapy, 3514 N. Oakland Avenue, Milwaukee 11, Wisconsin.

Hospital-school (residential): Staff position open for OTR in active, integrated program, functionally geared incorporating physical, social, emotional aspects of treatment. For information write Virginia Reeves, O.T.R., Supervising Therapist, Illinois Children's Hospital-School, 2551 N. Clark St., Chicago 14, Ill.

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Scenic, ocean to mountain recreation, cultural facilities, educational opportunities.

The Occupational Therapy Assn. of Oregon will send complete information on all positions available—public or private.

Write to: Joanne Freimund, OTR
6220 N.E. 19 Street
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Position available in recently re-decorated and newly staffed physical disabilities occupational therapy department under the direction of a physiatrist. Excellent inter-departmental relations and personnel policies. Write to Phyllis C. Depp, OTR, Physical Medicine Department, Massachusetts General Hospital, Boston 14, Massachusetts.

Two OTR's needed for supervision in expanding program in psychiatric hospital. Salary OTR I—\$4758-\$6058, OTR II—\$5252-\$6695. Liberal days vacation, holidays, sick time. Present staff consists of 2 OTR's, 10 attendants. Apply to Dr. Arthur O. Hecker, M.D., Superintendent, Embreeville State Hospital, Embreeville, Penna.

Challenging job for OTR—new or old (experienced)—in a state hospital. Rapidly developing therapeutic community under guidance of Dr. Maxwell Jones. With-in walking distance of state capitol and 2 hour drive to ocean and skiing. For details write Mr. Miller, OTR, Oregon State Hospital, Salem, Oregon.

Registered occupational therapist—165-bed accredited pediatric hospital in large medical center. Experience required. Good salary and personnel policies, including retirement plan. Apply Asst. Administrator, St. Louis Children's Hospital, 500 S. Kingshighway, St. Louis, Mo.

Experienced graduate to direct large OT department in university connected hospital service of P.M.&R. Centrally located in New York City. Teaching, research opportunities. Salary commensurate with experience. Write: N. Michaelis, Rehabilitation Service, Bellevue Hospital, 27th Street and First Avenue, N.Y.C.

Immediate opening for occupational therapist in a modern state tuberculosis hospital located in western New York State. Beginning salary is \$5620 which increases via annual increments to \$6850. Civil service position with liberal benefits. Full information on request. Write: M. Arlene Mellinger, O.T.R., New York State Health Department, 84 Holland Avenue, Albany 8, New York.

Occupational therapist II: Attractive position available in a 500 bed chest disease hospital. Located near winter resort area of Southern Pines and Pinehurst in North Carolina. Excellent employee health program, 40 hour work week, 3 weeks annual vacation, liberal sick leave, social security and retirement program. Living facilities available on hospital premises. Hospital is fully accredited by Joint Commission on Accreditation of Hospitals. Three employees in department. Requirements: degree in occupational therapy with 2 years experience. Salary range \$4,632-\$5,904. Apply to J. S. Lennon, Associate Administrator, North Carolina Sanatorium, McCain, North Carolina.

Experienced or inexperienced. Good personnel policies. 37½ hour work week. Salary scale, \$4400 to \$5200. Crossroads is located in a beautiful new building, well equipped. Research opportunities. Write Roy E. Patton, Executive Director, Crossroads Rehabilitation Center, 3242 Sutherland Avenue, Indianapolis, Indiana, or call WALnut 6-2481.

Immediate position for registered occupational therapist in recently enlarged, well-equipped out-patient treatment center for physically disabled children and adults. Occupational therapist to do individual functional therapy and pre-vocational evaluation. Salary \$4800-\$6000. Huntsville is the home of Redstone Arsenal and is an interesting city with an international flavor and large numbers of young working people. Contact Mr. L. O. Dees, Administrator, Huntsville Rehabilitation Center, 316 Longwood Drive, S.W., Huntsville, Alabama.

Wanted: Occupational therapist for full time employment in cerebral palsy center. Apply to Mary G. Marler, Executive Director, C/P Center, 2334 Warm Springs Road, Columbus, Ga.

Immediate positions available for two staff OTR's in 1050 bed private general hospital; an established functional pediatrics program treating in and out patients, and an experimental program emphasizing on-the-floor ADL and functional activities. Salary \$4,800-\$6,000, 3 weeks paid vacation, sick time, holidays, plus other benefits. Write: Mrs. Helen M. Williams, O.T.R., Henry Ford Hospital, 2799 West Grand Boulevard, Detroit 2, Michigan.

Immediate opening for OTR in a progressive teaching hospital for chest diseases located in University Medical Center. Comprehensive OT program within interdisciplinary rehabilitation department. Used as clinical practice center by 8 occupational therapy schools. Civil service, 2 weeks vacation, sick leave, retirement plan. Will consider recent graduate. Apply to: Mrs. Jean Luppens, Director, Rehabilitation Department, Ohio Tuberculosis Hospital, 466 W. 10th Avenue, Columbus 10, Ohio.

Positions available for staff occupational therapists (registered or eligible for registration) in progressive rehabilitation center near Los Angeles, California. Functional program for adults and children with orthopedic and neurological disabilities, supervised by orthopedic surgeons. Excellent educational opportunities. Two weeks vacation, sick leave, and legal holidays. Write Personnel Department, (acting for the Civil Service Commission) Rancho Los Amigos Hospital, 7601 East Imperial Highway, Downey, California.

Registered occupational therapist for acute psychiatric ward in Yale Medical Center. Therapist must be flexible, interested in utilizing group dynamics in recreational areas as well as in occupational therapy. Write Personnel Department, P.O. Box 1001, New Haven 4, Connecticut.

Position available for registered occupational therapist or eligible graduate in a growing, modern, children's convalescent home. Varied range of diagnosis. Well equipped department and a program which includes both functional and diversional therapy. 5 day week. Paid vacation and holidays. Maintenance available. Contact Dr. Harvey N. Vandegrift, Medical Director, Children's Seashore House, Atlantic City, New Jersey.

Wanted immediately—registered occupational therapist for out-patient center, single fund agency. Beginning salary \$425 per month. Children and adults treated. Five-day week, good fringe benefits. Staff also includes medical director, social worker, speech clinician and physical therapist. Write Pueblo Treatment Center, Inc., 1001 West St., Pueblo, Colo.

Supervisor of occupational therapy: immediate placement for a supervisor of occupational therapy in a dynamically oriented state hospital. Opportunity to develop new programs and participation in teaching. Salary open: Personnel Director, Hollidaysburg State Hospital, Hollidaysburg, Pa.

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This small psychiatric hospital can offer

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This hospital gives attention to programs in such special areas as

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- Therapeutic use of groups
- Day hospital
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- Supervisory development

Worthington is a quiet residential area of Columbus, Ohio—easily accessible to a large university—Salary—commensurate with ability

Apply: Shirley B. Lewis, O.T.R.
The Harding Sanitarium
Worthington, Ohio

Two new occupational therapy positions are immediately available for registered therapists at the Psychiatric Institute, University of Maryland Hospital. Total patient capacity of this unit is 60, the patient group consisting of persons from various diagnostic categories. Under treatment are people with illnesses varying from mild depressions to frank psychotic states. Conditions of work here are very good, as are our relationships with other allied treatment personnel. Psychiatric experience is not necessary, but a mature and outgoing orientation is. Men or women therapists are invited to apply. Beginning salary is \$4,540 with increments to \$5,677 in six years. Interested parties write to Mr. Roman Nagorka, Director, Activity Therapies Dept., Psychiatric Institute, University Hospital, Baltimore 1, Maryland.

Immediate opening for occupational therapist (experience desirable) in 355 bed university general teaching hospital. Newly remodeled and equipped department with growing program. Student training center. Attractive salary and benefits including educational opportunity. Apply: Mr. Edwin L. Taylor, Director, The Graduate Hospital of the University of Pennsylvania, Philadelphia 46, Pa.

Occupational therapist for department in a rehabilitation center, attached to general hospital, affiliated with medical school. On campus of state university. Salary commensurate with ability and experience. Write Administrator, DeGoesbriand Memorial Hospital, Burlington, Vermont.

Immediate opening, Kansas City, Missouri, Menorah Medical Center, 4949 Rockhill Road. Attractive position in department of occupational therapy. Will be expanding efforts in rehabilitation next year upon completion of building program. Presently have 3 therapists, work in med-surg., psychiatry, pediatrics. Contact Personnel.

Needed 2 registered OT's, male or female. A new facility located in psychiatrically oriented community. Evaluation, training and research in mental retardation and allied neurological problems. This is the place to try new approaches and daring ways of treating old problems. Civil service benefits. For information write: Mrs. Thelma M. Long, O.T.R., Coordinator Adjunctive Therapy, Kansas Neurological Institute, 3107 West 21st Street, Topeka, Kansas.

Opening for a registered staff therapist in a growing, dynamic 65 bed institution specializing in the rehabilitation of physically disabled adult patients through a comprehensive team approach dealing with medical, social, psychiatric and vocational aspects of the disability. Benefits include one month vacation, liberal sick leave, holidays and a retirement plan. Laundering of uniforms and noon meal are provided. Salary based on experience with a minimum of \$4500. For further information write to: Miss Ruth Ann Lauler, O.T.R., Ass't. Director of Occupational Therapy, Harmarville Rehabilitation Center, Pittsburgh 38, Penna.

Immediate opening for occupational therapist. One therapist in OT department-Aide available. Fifty outpatients, all cerebral palsied. Thirty-five working hours per week, hospitalization, three weeks paid vacation, salary commensurate with experience. United Cerebral Palsy, 2912 N. "E" Street, Pensacola, Florida.

Staff occupational therapist position open in 140 bed hospital. Staff of 5 registered therapists. Interesting rehabilitation work with children and adults, all types of orthopedic cases. Nationally recognized amputee center with federal amputee research program. Excellent learning situation. Registered therapists do only functional therapy under direct supervision of orthopedic surgeons. Affiliate student training program. Salary commensurate with national standards. Three weeks vacation with pay and six legal holidays. Contact Miss Leila McNabb, O.T.R., Director, Occupational Therapy, Mary Free Bed Children's Hospital, 920 Cherry St., S.E., Grand Rapids, Mich.

Immediate opening for registered occupational therapist in the 60 bed psychiatric unit of the Cincinnati General Hospital; OT program is already well developed and closely integrated with other treatment programs; opportunity for education and professional growth in a large, dynamic resident training center; faculty appointment in Medical College; salary range \$5,332 to \$5,750; two weeks vacation. For further information contact Miss Mary Jane Mendez, Personnel Technician, Cincinnati General Hospital, Cincinnati, Ohio.

Wanted—therapist: To direct OT in small community and Easter Seal supported center with varied program and excellent potential for expansion. Must have some experience. Salary commensurate with ability and experience. Gateway Therapy Center, Fort Collins, Colo.

Position available June 15, 1961, in 290 bed in-patient, A.M.A. accredited, dynamically oriented, teaching and research hospital located in the city. Department consists of eight registered therapists and six aides, it is a student affiliation center. Excellent educational facilities. For further information contact Inez Hunting, Director, Occupational Therapy, Cleveland Psychiatric Institute and Hospital, 1708 Aiken Avenue, Cleveland 9, Ohio.

Faculty position available September, 1961, for supervisor of clinical affiliations, also some teaching. Master's degree desirable. Salary dependent upon training and experience. Write to Marjorie Ball, Director, Occupational Therapy Division, Colorado State University, Fort Collins, Colorado.

A progressive approach to occupational therapy as a psychiatric treatment, opportunity for education and professional growth. Openings for 2 occupational therapists, registered or eligible for registration, for staff positions in 61 bed psychiatric dept. of general hospital. Limited out-patient program. Pleasant surroundings, good working conditions. Write Frances Rizzo, OTR, Dept. of Psychiatry, Pres.-St. Luke's Hospital, 1753 W. Congress, Chicago 12, Illinois.

Newly completed \$1,500,000 rehabilitation center announces openings for registered physical and occupational therapists. Predominantly pediatric 82-bed facility located within easy driving distance of beach and mountain resort areas. Starting salary \$410.00 per month with regular increments. Benefits include sick leave, paid vacation and paid holidays. Comprehensive program includes physical and occupational therapy, speech and hearing, pre-vocational, psychological and social services. Contact Robert S. Cunnison, Casa Colina Rehabilitation Center, 255 East Bonita Avenue, Pomona, California. LYcoming 3-1336.

Wanted: male or female OT's. Registered or registration eligible, for work in a large state psychiatric hospital. Excellent starting salary with many fringe benefits available. John W. Whitehouse, Personnel Director, South Carolina State Hospital, Columbia, S. C.

Position available immediately in 100 bed hospital for children with rheumatic fever and related diseases. Student training program. Five day week, employee benefits, salary open. Pleasant surroundings in park area on shore of Lake Michigan. Apply: K. B. Hudgens, O.T.R., Director of Occupational Therapy, La Rabida Jackson Park Sanitarium, East 65th Street at Lake Michigan, Chicago 49, Illinois.

Staff Occupational Therapist
Words like these apply to the special interest areas of the O.T. Department of Children's Hospital—

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For the position of Staff Occupational Therapist, we do not want the impossible—but we do want a person interested in further creative development of programs. You should have at least 2 years of experience for maturity in working in a department with this breadth. Apply at the Personnel Department, Children's Hospital, Columbus, Ohio.

Immediate opening for male OT. Primary interest and experience in pre-vocational activities. Program includes job sampling evaluation, personal adjustment training and vocational training. Recently completed building expansion provides over 2500 sq. ft. for vocational services. Dep't. exceptionally well equipped and part of a modern comprehensive center located in New York State's Capitol District. Must be mature individual, capable of ultimately assuming program direction. Salary commensurate with experience and training. Apply to Director of Vocational Services, Sunnyview Orthopaedic and Rehabilitation Center, 1270 Belmont Avenue, Schenectady, N. Y.

Opening for an occupational therapist in the psychosomatic and psychiatric institute for research and training of Michael Reese Hospital. The position, available immediately, offers the opportunity to work with adolescents, young adults and adults in a private psychiatric hospital in close cooperation with individual patients' psychiatrists. Apply Personnel Dept., Michael Reese Hospital, 29th St. and Ellis Ave., Chicago 16, Ill.

Assistant OT director, 358 bed general hospital, suburban Philadelphia. Functional and diversional treatment of GM&S patients. Starting salary \$4400 to \$4800 depending on experience. Supervision by psychiatrist. Apply: Miss Esther Sharpless, Bryn Mawr Hospital, Bryn Mawr, Pa.

Southern Ohio. 120 bed intensive treatment, psychiatric, State Receiving Hospital. Salary \$400-\$480. Write: Mary Coriell, OTR, Coordinator of Activities Therapies, P.O. Box 651, Portsmouth, Ohio.

Registered occupational therapist—for public school for orthopedically handicapped children. Salary for regular school term-B.A. \$4300-\$6450, M.A. \$4700-\$7281. Apply: E. A. Durbahn, Supt. of Schools, Worthington, Minn.

A variety of experiences are available for ten more staff therapists in a chronic disease (all ages) and geriatric program in a 2000 bed city hospital and home affiliated with New York Medical College! Positions are available in adult rehabilitation, children's rehabilitation (cerebral palsy), volunteer and OT assistant program, home care, pre-vocational, adaptive equipment and wood-working (male therapist preferred), and special studies. We have nine OTR's and a student training program. Seven hour day, five day week, four weeks paid vacation, eleven holidays, twelve days sick benefit, six hour day for summer months. Salary \$4250 and higher (annual increments \$180). Write to Mrs. Carolyn Aggarwal, O.T.R., Chief of OT, Bird S. Coler Hospital and Home, Welfare Island, New York 17, New York.

Wanted: occupational therapist in a day-care center for children and adults. This guidance center will soon move into a new building especially constructed to house the out-patient clinic plus a day-care facility for adults and a day-care center for children. The occupational therapist will serve both day-care facilities. The adult day-care center will be oriented toward a pre-vocational program serving largely recently discharged patients of the State Hospital, (fifteen patients). The children's day-care center will serve ten children chosen because of emotional difficulties making standard school experience impossible. This is an opportunity to work in a new program with a multi-disciplinary psychiatric team. There are six practicing occupational therapists in the community. Beginning salary, recent graduate, no experience \$4,700.00. Yearly increments \$300.00 to a ceiling of \$6,800.00. Apply to: Roy C. Knowles, M.D., Psychiatrist-Director, Minnehaha Guidance Center, 1101 West 28th Street, Sioux Falls, South Dakota.

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Opening September first for chief occupational therapist and staff occupational therapist in 600 bed teaching hospital. Program includes pediatric, psychiatric and physical disabilities. Salary open. Three to four weeks paid vacation; sick leave; uniform laundry. Write: Director of Physical Therapy and Occupational Therapy, Box 3247, Duke University Medical Center, Durham, N. C.

Opening in June for registered occupational therapist interested in psychiatry. Diagnostic and acute treatment service with a bed capacity of about 70 patients, small occupational therapy unit within the department. Therapist should have ability to independently plan and carry out occupational therapy program under the direction of the physicians. For further information write Miss Judy Harris, OTR, Dept. of Physical Medicine and Rehabilitation, Marion County General Hospital, 960 Locke Street, Indianapolis 7, Indiana.

Openings for two occupational therapists with or without experience in a 120 bed rehabilitation hospital located between Hartford and New Haven, Connecticut. Expanding program includes treatment of both in and out-patients under the direction of a full time physiatrist. Please contact: Miss Frances B. Hume, OTR, Gaylord Hospital & Sanatorium, Wallingford, Connecticut.

Royal Perth Hospital Perth

Western Australia

OCCUPATIONAL THERAPIST

Applications are invited for the position of Occupational Therapist to assist the Director of the Royal Perth Hospital School of Occupational Therapy in the development of the School.

Duties will be mainly administrative initially, but will include preparation for and supervision of Students in Clinical Training, and some teaching.

Royal Perth Hospital is the main teaching hospital associated with the Medical School of the University of Western Australia, and has a total bed capacity of 850. The School of Occupational Therapy was inaugurated in February, 1961, and has at present a first year course of 8 students. An ultimate enrollment of approximately 50 is envisaged.

QUALIFICATIONS: Experience in Psychiatry desirable but not essential. Administrative and teaching experience would be an advantage.

SALARY: Within the range of £A1,053-£A1,341 per annum (equivalent of \$2,345.34-\$2,986.80), according to qualifications and experience.

Superannuation available. Long Service Leave, three months after seven years' service.

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Applicants should state age, qualifications, present and previous appointments, and the names and addresses of two professional referees.—Joseph Griffith, administrator.

Occupational therapist position available in modern well-equipped unit in 70 bed psychiatric hospital. Pinel Hospital, 741 Diversey Parkway, Chicago 14, Illinois.

Openings for staff therapists. Salary \$4380-5317. O.T. II positions also available, experienced, \$4824-5859. 37½ hr. week, noon meal, vacation, sick leave plus 11 paid holidays, other benefits. Our 1100 bed hospital, located in an excellent residential neighborhood, has a varied program of group and bedside activities and a post-surgical kinetic program. Contact: Miss N. Howat, OTR, Municipal Tuberculosis Sanitarium, 5601 North Pulaski Road, Chicago 46, Illinois.

Wanted for July opening: full-time registered staff occupational therapist. Position includes work in small psychiatric and pediatric wards of a 270-bed general hospital. New graduates will be considered. Write Dr. E. C. Welsh, Director, Dept. of PM & R, Columbia Hospital, 3321 N. Maryland Ave., Milwaukee 11, Wis.

O.T. to head Dept. of Rehabilitation Center. Presents challenge of multi-purpose program. Also provide consultation to community health groups. 40 hr. 5 day wk; 3 wk. vacation. Salary open based on experience. Write Dir. Curative Workshop, 342 S. Webster, Green Bay, Wis.

Supervising occupational therapist to head occupational therapy department in a 500 bed teaching hospital. Applicants should have had recent supervisory and administrative experience. Pleasant working conditions. University community. Contact Personnel Office, University of Virginia, 1416 W. Main Street, Charlottesville, Virginia.

Experienced registered occupational therapist to operate occupational therapy department for 100 bed psychiatric unit in 800 bed hospital. Salary open. Contact John R. Mote, Administrative Assistant, Methodist Hospital, 1604 North Capitol Avenue, Indianapolis 7, Indiana.

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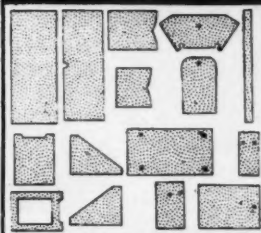
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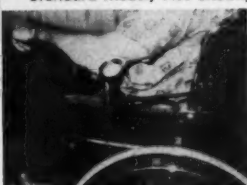
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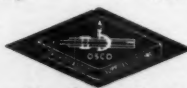
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- San Jose State College, San Jose 14, Calif. *Prof. Mary D. Booth, O.T.R., Head, Department of O.T.*
- Southern California, University of, College of Letters, Arts and Sciences, Box 274, Los Angeles 7, Calif. *Assoc. Prof. Harriet Zlatohlavak, O.T.R., Head, Dept. of O.T.*
- Texas Woman's University, Denton, Texas. *Miss Cruz A. Mattei, O.T.R., Acting Director, School of O.T.*
- Tufts University, Boston School of Occupational Therapy, College of Special Studies, 7 Harcourt St., Boston 16, Mass. *Asst. Prof. Veronica Dobranske, O.T.R., Chairman, Dept. of O.T.*
- Washington University, School of Medicine, 4567 Scott Ave., St. Louis 10, Mo. *Asst. Prof. Martha Matthews, O.T.R., Director, Dept. O.T.*
- Washington, University of, School of Medicine, Department of Physical Medicine and Rehabilitation, CC-814 University Hospital, Seattle 5, Washington. *Miss Shirley Bowing, O.T.R., Head, Division of O.T.*
- Wayne State University, College of Liberal Arts, Detroit 1, Michigan. *Assoc. Prof. Barbara Jewett, O.T.R., Chairman, Dept. of O.T., Rehabilitation Institute, 261 Brady St.*
- Western Michigan University, Kalamazoo 45, Michigan. *Assoc. Prof. Rosalia A. Kiss, O.T.R., Head, O.T. Dept.*
- Wisconsin, University of, School of Medicine, 1300 University Ave., Madison 6, Wis. *Asst. Prof. Caroline G. Thompson, O.T.R., Director of O.T.*

